

Exhibit 7

**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF OHIO
EASTERN DIVISION**

**In re: WHIRLPOOL CORP.
FRONT LOADING WASHER
PRODUCTS LIABILITY LITIGATION**

1:08-wp-65000

MDL No. 2001

Class Action

Judge: James S. Gwin

EXPERT REBUTTAL REPORT OF PAUL M. TAYLOR

1. I am a Principal Engineer employed by Exponent, an engineering and scientific consulting firm located in Menlo Park, California. I hold the opinions expressed in this report to a reasonable degree of engineering certainty.

2. My curriculum vitae, billing rate, and testimony history have remained unchanged from the expert reports I submitted in this matter on November 16 and December 16, 2009.

Exhibit A contains a listing of the materials I considered for this report in addition to those referred to in my November 16 and December 16, 2009 reports.

3. I make this report at the request of counsel of record for Whirlpool Corporation in this litigation. I was asked to review and comment on the rebuttal report submitted on January 4, 2010, by Dr. R. Gary Wilson ("Wilson Rebuttal") in this matter.¹

4. For ease of reference, the term "Subject Washers" will be used to refer to Whirlpool Duet, Duet HT, Duet Steam, Duet Sport, and Duet Sport HT front-load washers that are or were used in one or more of the 14 MDL states.²

¹ Supplemental Report to "Expert Report on Whirlpool Front-Loading Washer", Dr. R. Gary Wilson, Ph.D., P.E., January 4, 2009 ("Wilson Rebuttal").

Response to Dr. Wilson's Rebuttal Report

5. Dr. Wilson opines that (1) Whirlpool did not disclose to its customers the inherent propensity of the Subject Washers to grow mold, and (2) purposefully did not use the words "mold," "mildew," or "bacteria" in its communications to customers concerning potential odors or biofilm.³ In my opinion, however, the available facts and evidence are contrary to Dr. Wilson's claims.

a. Regarding point (1) of Dr. Wilson's opinion, in my December 16, 2009 report, I presented evidence demonstrating that the rate of customer calls and service visits regarding potential mold or moldy odor problems, during the first year of ownership of the Subject Washers, was less than 0.5%, and that after five years, the rate was less than 4%. The five-year rate was based on owners who bought a five-year extended service contract from Sears and who therefore had an incentive to contact Sears for perceived problems with their washers.⁴ In his rebuttal, Dr. Wilson did not present any alternative analyses of the Whirlpool and Sears service and call center data. Dr. Anthony Hardaway also found, from his earlier analysis of Whirlpool's service records, in-warranty rates of less than 0.3% and 0.2% of Whirlpool-brand Access and Horizon washers, respectively, for potential mold, mildew, or odor problems.⁵ Dr. Hardaway's in-warranty service rates are based on the actual empirical data from the field and contradict Dr.

² The washers "at issue in this matter" include Whirlpool-brand Subject Washers being used in one of the 14 states for which the plaintiffs propose formation of state-wide classes, including AZ, CA, FL, IL, IN, MD, NC, NJ, NY, OH and TX (Second Amended Complaint ¶ 107), plus GA, MA, and MI (*Cloer* Complaint ¶ 52), which I shall refer to in this report as the "MDL states."

³ Wilson Rebuttal, page 4, paragraph 7.

⁴ Expert Rebuttal Report of Paul M. Taylor, December 16, 2009 ("Taylor Rebuttal"), paragraphs 10-14.

⁵ Affidavit of Anthony H. Hardaway, August 19, 2008 ("Hardaway Affidavit"), paragraphs 33-34.

Wilson's assertion that the Subject Washers have an inherent propensity to develop the alleged "Mold Problems."

b. Regarding point (2) of Dr. Wilson's opinion, Dr. Wilson is incorrect in asserting that Whirlpool chose not to use the words "mold," "mildew," or "bacteria" in its communications with consumers. For example, the Use and Care Guides for Mr. Glennon's, Ms. Glazer's, and Ms. Sandholm-Pound's washers state: "Using regular detergent will likely result in washer errors, longer cycle times and reduced rinsing performance. It may also result in component failures and noticeable mold and mildew."⁶

c. Whirlpool also used the words "mold" and "mildew" in e-mail communications with customers. For example, in its response to an e-mail from Ms. Glazer, the Whirlpool Customer Experience Center representative describes Ms. Glazer's problem as a "mold issue" and uses the words "mold" and "mildew" five and four times, respectively, even though Ms. Glazer's original e-mail used neither term.⁷ Whirlpool customer service responded to Ms. O'Brien's complaint via e-mail as well, and used the words "mold" and "mildew" in reference to the odor issue described by Ms. O'Brien.⁸

d. Dr. Wilson's opinion is also contradicted by language Whirlpool has used on its consumer website. Whirlpool uses the words "mold" and "mildew" regarding odors that may develop in front-loading washers. For

⁶ Glennon: Whirlpool Duet Front-Loading Automatic Washer, Use & Care Guide, 461970236271, pages 11, 12 and 17. Glazer: Whirlpool Duet Sport Front-Loading Automatic Washer, Use & Care Guide, 8540910A, pages 12, 13 and 18. Sandholm-Pound: Whirlpool Duet Steam Front-Loading Automatic Washer Use & Care Guide, 461970240782, pages 11, 12 and 17.

⁷ Deposition of Gina Glazer ("Glazer Dep.") at Ex. 6.

⁸ Deposition of Maggie O'Brien ("O'Brien Dep.") at Ex. 10.

example, Whirlpool discusses mold and mildew in their “Search FAQ’s” section, under the heading: “Causes of odor in my front-load washer.”⁹

e. Richard Conrad, Director of Product Delivery at Whirlpool, wrote a letter to Consumers Union (the publisher of *Consumer Reports* magazine) in November 2004 about, among other things, the importance of consumers using high-efficiency (HE) detergent in HE washers, to help Consumers Union “in educating consumers on how to get the best performance out of their laundry products”¹⁰ In that letter, Mr. Conrad discussed potential biofilm growth in HE washing machines and stated: “All washers operate in conditions that can lead to bacteria and mold growth: a warm, humid environment with low airflow.” In my opinion, Whirlpool’s writing to Consumers Union about bacteria and mold growth in HE washers, with the hope of reaching Whirlpool’s consumer audience, is an action that is inconsistent with an attempt to hide such information from consumers. The February 2005 issue of *Consumer Reports*, which came out after Consumers Union received Mr. Conrad’s November 24, 2004 letter, discussed the need for using low-sudsing (*i.e.*, HE) detergent in front-loading washing machines and specifically stated: “Numerous readers have reported that their front-loading washers developed mold or a musty smell. Using chlorine bleach occasionally and leaving the door ajar should help.”¹¹

6. In his rebuttal, Dr. Wilson claims that “Whirlpool documents indicate that as early as 2005 35% of its washers developed Biofilm.” Dr. Wilson refers to the purported 35% of

⁹ http://whirlpool.custhelp.com/app/answers/detail/a_id/2362/sno/0; and W0192415 printed 4/8/2009.

¹⁰ Deposition of Richard Conrad (“Conrad Dep.”) at Ex. 13, W0055037-W0055039.

¹¹ “Washer & Dryer Update: A new spin,” *Consumer Reports*, February 2005, page 42.

biofilm buildup as a “failure rate.”¹² In my opinion, Dr. Wilson’s claim is erroneous for the following principal reasons:

a. The actual field data do not show a “failure rate” of 35%. In my rebuttal report, where I analyzed several Whirlpool and Sears databases containing records of customer contacts and service calls, the rates of complaints about mold or odor were an order of magnitude lower than the level claimed by Dr. Wilson.¹³ As my analyses showed, the rates of mold, mildew, or odor complaints (as those terms are used in my December 16, 2009, report) were less than 0.5% in the first year of ownership and less than 4% during the first five years of ownership.

b. As an independent source of data, *Consumer Reports*, in five successive yearly issues, reported the results of their surveys on the rates of repairs or serious problems for Whirlpool front-loaders.¹⁴ These rates varied between 9% and 12%, of which mold or odors would be only one cause of repair or problems. Thus, the 35% figure used by Dr. Wilson has been contradicted on each occasion by Consumers Union, an independent product evaluator.

c. Plaintiffs deposed Whirlpool employee Sean Chapman, the Director of Component Architecture, on October 5, 2009.¹⁵ Mr. Chapman testified that neither he nor anyone with whom he spoke knew the source of the 35% number, including Mr. Ulrich Grotz (who apparently prepared the first

¹² Wilson Rebuttal, page 5, paragraph 2.

¹³ Taylor Rebuttal, paragraphs 10-14.

¹⁴ *Consumer Reports*, February 2005, page 43; *Consumer Reports*, March 2006, pages 43-45; *Consumer Reports*, January 2007, pages 39-41; *Consumer Reports*, February 2008, pages 45-47; and *Consumer Reports*, February 2009, pages 46-48.

¹⁵ Deposition of Sean Chapman (“Chapman Dep.”), October 5, 2009

document in which the 35% number was quoted), Dr. Gismar Eck, and Mr. Marcus Thielemann.¹⁶ Mr. Chapman testified that a possible explanation for the 35% figure related to the results of a Whirlpool intranet questionnaire of Whirlpool employees regarding household appliances, which was not specific to the Subject Washers.¹⁷

- i. The intranet survey clearly included owners responding about their dishwashers and top load washers, in addition to those who may have had front-load washers. There is no information on how many owners of front-load washers responded, and how many of them ever noticed an odor.¹⁸
- ii. The intranet survey asked whether respondents ever noticed a smell or odor, not whether they were experiencing a continuing problem with odors. Many of the responses describe clearly episodic experiences.
- iii. Many of the odors are unrelated to the problems claimed by Plaintiffs (*e.g.* gasoline, chlorine).
- d. I am aware of no field data that supports a 35% rate of mold and odor complaints in the Subject Washers.
- e. Dr. Wilson chose to rely on documents unsubstantiated by data and where a very plausible alternative explanation was available, rather than on engineering analyses of three different data sources (Whirlpool databases, Sears databases, and *Consumer Reports*). In my opinion, Dr. Wilson cannot reach an

¹⁶ *Ibid.* at 60:4-15.

¹⁷ *Ibid.*

¹⁸ "Survey: Cleaning Your Washer," W0021005-21027, showing 103 responding "No" and 54 responding "Yes", for a rate of 34.4%.

opinion to a reasonable degree of mechanical engineering certainty¹⁹ on the rate of customers complaining of odors in the Subject Washers by: (1) ignoring the actual recorded data, and (2) relying instead on documents that the participants and author(s) cannot support or substantiate and where a plausible alternative explanation exists.

7. Dr. Wilson opines that the use of bleach as a “quick fix” was detrimental to the structural components of the Subject Washers.²⁰ Although Dr. Wilson does not clearly describe which “structural components” were purportedly affected by the use of bleach in monthly maintenance cycles, based on the deposition questions of Dr. Hardaway and Mr. Chapman, I assume that Dr. Wilson is referring to the degradation of the aluminum crosspiece that supports the stainless steel drum. This opinion, too, is unsupported by the evidence. In fact, the available evidence indicates that one cup of bleach can be safely used to sanitize the Subject Washers:

a. First, the Access washer’s original aluminum cross-piece design was evaluated for compatibility with detergent and chlorine bleach before Whirlpool released the components for manufacturing in 2001. A laboratory report dated July 24, 2001, stated:²¹

“The submitted ACCESS aluminum die cast crosspiece exhibited some white corrosion and small pits after 1000 hours of detergent/bleach vapor testing. This white corrosion is cosmetic and does not affect the structural integrity of the part.”

This test was performed by immersing part of the basket/crosspiece assembly in a mixture of 2 percent Ultra Tide and 2 percent Clorox Bleach at 70°C (158°F) for 1000 hours.

¹⁹ Wilson Rebuttal, page 3, paragraph 2.

²⁰ Wilson Rebuttal, page 6, paragraph 5.

²¹ St. Joseph Technology Center, Laboratory Report, Subject: ACCESS Basket – Crosspiece and Lifters, W0111403-W0111405.

b. Second, another Whirlpool report summarizing 2005 testing of field-return units with 120 cycles of various bleach concentrations found “No loss of casting strength”²²

c. Third, the material used in the crosspieces differs depending on the platform (*i.e.*, Access or Horizon) as well as the date of manufacture. For example, all Horizon washers, from the start of production to the present, have used an aluminum crosspiece with reduced copper content compared to the original 2001 Access crosspiece design.²³ By way of another example, in 2005 Whirlpool changed the material used in the Access washer’s crosspiece to a composition with lower copper content.²⁴

d. Fourth, both Dr. Wilson and I attended teardowns of several Access washers, including inspections of the crosspieces and drums after those parts had been removed from the washers. I did not observe any evidence of material degradation that suggested the structural integrity of the Plaintiffs’ crosspiece-drum assemblies had been compromised. Further, none of the named plaintiffs have complained of loss of structural integrity.

e. These studies and observations provide evidence contrary to Dr. Wilson’s opinion that chlorine bleach, if used according to Whirlpool’s instructions, is detrimental to the structural components of the Subject Washers.

8. Dr. Wilson states: “It is my opinion that the data indicates that there will be a residue build-up in all front loading Whirlpool washing machines except in a few cases.”²⁵ Dr.

²² 120 Bleach Cycle Reliability Test – Access Field Return Washers, W0020839-W0020845.

²³ Deposition of Joseph Zahn (“Zahn Dep.”), at 246:16-20.

²⁴ Chapman Dep., at 193:9-11.

²⁵ Wilson Rebuttal, page 7, 6th full paragraph.

Wilson neglects to point out that residue builds up in most washing machines,(including conventional top-loaders) of different makes and models, and that residue build-up alone generally does not affect the washer's ability to effectively clean clothes or become an odor problem for the user. In other words, residue alone cannot be considered a performance "problem" in front-loading washing machines.

a. Dr. Hardaway performed a study in which he disassembled, inspected, and photographed 72 top-loading washers of different makes and models.²⁶ In the vast majority of these washers, he observed residue buildup that was visible to the naked eye and confirmed the presence of mold or bacteria, or both, through surface samples taken from the machines. Thus, Dr. Hardaway's 2008 study found that residue buildup and biofilm are likely to occur in the vast majority of washing machines, not just front-loaders.

b. Dr. Hardaway also testified that there are consumers who follow the prescribed maintenance cycles and who never experience noticeable odor or noticeable residue buildup.²⁷ He also has disassembled several washers (including two of his own) that had no observable residue or mold buildup.²⁸

c. In my December 16, 2009 rebuttal report, I discussed the experience of one customer, Ms. Shirley Hand, who has not experienced a mold or odor problem after six years of use of her Duet washer.²⁹

d. On January 8, 2010, I inspected the Kenmore Elite front-loading washer owned by Mr. Martin Champion, who is one of the named plaintiffs in the

²⁶ Hardaway's Biofilm Field Study – Compressed Photos (February 2008).xlsx.

²⁷ Hardaway Dep. at 463:25– 464:4.

²⁸ Hardaway Dep. at 464:6-8.

²⁹ Declaration of Shirley Hand ("Hand Decl."), Nov. 24, 2009.

related Sears cases. (I am including references to the Kenmore Elite since Dr. Wilson has made clear that his analysis refers to all Horizontal Axis (“HA”) washers manufactured by Whirlpool.)³⁰ Mr. Champion’s washer, which is built on Whirlpool’s Access platform, did not have a noticeable odor. I observed no biofilm buildup on or in the door seal, in the wash basket, or in the translucent drain tube. I observed a minimal amount of residue in the soap dispenser, and parts of the soap dispenser cavity and soap dispenser had an orange discoloration that had a rust-like coloration, but these components did not have a noticeable odor. Photographs of these areas of Mr. Champion’s washer are provided in **Exhibit B**. The only times that Mr. Champion experienced problems with mold or odors has been when the washer door locked and he could not take his clothes out, or on an article of clothing that got trapped in the bellows.³¹ Rewashing the clothes eliminated their odor, and he testified that he did not have odors in his washer at any other time.

e. On January 12, 2010, I inspected the front-loading washer owned by Mr. Victor Matos, who also is a named plaintiff in the related Sears cases. Mr. Matos’ washer is a Kenmore Elite, which is built on Whirlpool’s Access platform. At the time of my inspection, his washer was five years old and did not have a noticeable odor. I observed a modest residue buildup in the soap dispenser cavity and in the door gasket. I also observed a very minimal amount of residue in the drain hose. Photographs of these areas of Mr. Matos’s washer are provided in **Exhibit C**. Mr. Matos has never complained of mold or foul odors, repeatedly

³⁰ Wilson Rebuttal, page 3, paragraphs 4-5.

³¹ Deposition of Martin Champion, August 14, 2009, at 163:4 – 168:12 and 191:23 – 193:12.

testifying that his washer does not have an odor problem, or mold or mildew growing inside the washer.³² The presence of residue does not necessarily mean that the customer has a “Mold Problem,” as defined by Plaintiffs. Indeed, residue or biofilm in a person’s washing machine may not cause an objectionable odor or affect the washer’s cleaning performance or other performance characteristics.

9. Dr. Wilson opines that “[t]here appears to be no data to support the claim that the instructions provided to the consumer in the Use and Care Instructions will properly manage the Biofilm problem.”³³ Dr. Wilson appears to have changed his opinion from his first report. Nevertheless, I have provided some examples that show Dr. Wilson’s rebuttal opinion is incorrect:

a. In his first report, Dr. Wilson stated, “[i]n addition, consumer instructions for cleaning processes and special cleaning cycles have been added to the washers. Whirlpool has also made special cleaning tablets available. The effectiveness of these changes have[sp] not been evaluated.”³⁴ Dr. Wilson does not describe what new engineering work he has done, if any, that enabled him to change his opinion on the effectiveness of the cleaning instructions.

b. The customer contact and service data indicate that later model years of Access and Horizon washers, which contained instructions on how to prevent mold, mildew, and associated odors in the Subject Washers, have lower rates of mold-odor concerns than earlier models of washers.³⁵

³² Deposition of Victor Matos, July 9, 2009, at 91:24 – 92:12, 93:12 – 94:15, 95:14 – 96:15, 121:21 – 24, 244:1-2, 246:5-7.

³³ Wilson Rebuttal, page 8, paragraph 3.

³⁴ Nov. 16, 2009, Expert Report on Whirlpool Front-Loading Washer by Dr. R. Gary Wilson, at page 10, 3rd full paragraph.

³⁵ Taylor Rebuttal, paragraph 10. Hardaway Affidavit, paragraph 33.

c. Ericka Englert, in her declaration dated August 31, 2009, stated that after her Duet HT washer developed an unpleasant odor, which she believed was related to her washing dirty diapers in the machine, she started running a monthly Clean Washer cycle with chlorine bleach.³⁶ Ms. Englert stated that the monthly maintenance using the Clean Washer cycle has prevented the odor from returning.

d. The Soap and Detergent Association has developed recommendations for customers with HE washers that mirror instructions in some of the Use and Care Guides, including 1) use of HE detergent to minimize residue buildup that can result in odors, and 2) running a regular maintenance cycle according to the manufacturer's instructions or using a hot water cycle and bleach.³⁷

e. The Association of Home Appliance Manufacturers (AHAM) published a guide called "Consumer Information on Clothes Washers and Odor, Mold and Mildew."³⁸ In this document, AHAM includes recommendations that mirror those in some of Whirlpool's Use and Care Guides, including: (1) use of HE detergent, and (2) increasing airflow by leaving the door or lid open between uses.

³⁶ Declaration of Ericka Englert ("Englert Decl."), August 31, 2009

³⁷ The Soap and Detergent Association, "High Efficiency Washer and Detergents, Working in Harmony to Save Energy and Water," 2005.

³⁸ Association of Home Appliance Manufacturers, AHAM, "Consumer Information on Clothes Washer and Odor, Mold and Mildew."

10. Dr. Wilson opined that one source of the odor exhibited on the clothes is when the biofilm rubs off the inside of the basket (*i.e.* the drum) and transfers to the clothes.³⁹ This opinion is not supported by the available evidence:

a. I took samples from the inside surface of the drum in Ms. Schaeffer's washer after it (reportedly) had been out of service for a month. Neither culturable bacteria nor culturable fungi were found on the inside of her drum, and a tape lift sample found no mold growth. Copies of those reports are attached as **Exhibit E.**

b. I physically inspected the inside drum surfaces of eight Duet and Duet Sport washers owned by named plaintiffs. I observed a shiny interior surface with no visible biofilm or residue buildup.

c. Named plaintiffs, such as Ms. Glazer and Ms. O'Brien, when asked, testified that they have not observed residue or mold growth on the inside surfaces of their drums.⁴⁰

11. Dr. Wilson also has changed his opinion on how long it takes for odors to develop. In his November 16, 2009, report, he opined that, "[w]ithin a matter of months and often only within a few weeks the ACCESS and HORIZON begin to produce an offensive order[sp] ..."⁴¹ In his Rebuttal Report, Dr. Wilson changes this opinion, stating: "It is my opinions[sp] that the odor problem can occur as early as 30 days of usage or as long as two years"⁴² In either case, it is my opinion that Dr. Wilson's conclusions are incorrect:

³⁹ Wilson Rebuttal, page 8, paragraph 4.

⁴⁰ Deposition of Gina Glazer, June 17, 2009 at 138:5 – 10. Deposition of Maggie O'Brien, June 9, 2009 at 142:8-10.

⁴¹ Expert Report on Whirlpool Front-Loading Washer, Dr. R. Gary Wilson, November 16, 2009, page 8, third paragraph.

⁴² Wilson Rebuttal, page 8, paragraph 5.

a. The actual data (see paragraph 6) show that most consumers do not report any odor problem, even after two years.⁴³

b. *Consumer Reports*, in five successive yearly issues, reported the results of their consumer surveys showing the rates of repairs or serious problems for all Whirlpool-brand front-loaders.⁴⁴ These rates varied between 9 and 12%, of which mold or odors would be only one cause of repairs or problems.

c. The experience of Ms. Hand, who has owned her washer for six years and has never experienced a mold, mildew, or odor problem, as well as the experiences of Sears plaintiffs such as Mr. Matos, who have owned their machines for more than two years, contradict Dr. Wilson's assertion.⁴⁵

d. Dr. Wilson does not provide any citation, or refer to any data, that supports this opinion, nor does he address the existing data that is contrary to his opinion.

12. Dr. Wilson opines that all Access platform washers are similar to each other, all Horizon platform washers are similar to each other, and from an engineering standpoint the Access and Horizon platforms are sufficiently similar to each other.⁴⁶ He also claims that Dr. Hardaway stated in his affidavit that the designs of Whirlpool's HA HE washers are substantially similar for the purposes of this litigation.⁴⁷ In fact, there are important differences among Access washers, among Horizon washers, and between Access and Horizon washers. Furthermore, Dr. Wilson has misinterpreted what Dr. Hardaway said in his affidavit:

⁴³ Taylor Rebuttal, paragraphs 10-14.

⁴⁴ *Consumer Reports*: February 2005, page 43; March 2006, pages 43-45; January 2007, pages 39-41; February 2008, pages 45-47; and February 2009, pages 46-48.

⁴⁵ Hand Decl.

⁴⁶ Wilson Rebuttal, page 9, paragraph 1.

⁴⁷ Wilson Rebuttal, page 11, paragraph 4.

- a. All Duet Sport and Duet Sport HT washers have a Clean Washer cycle. The Use and Care Guides for all these washers describe the operation and purpose of this cycle as designed specifically to clean the washer and to avoid odors.⁴⁸
- b. Later model-year Access washers (those built from September 2005 to the present) have either a maintenance cycle or a Clean Washer cycle, which also are described in the Use and Care Guides.⁴⁹
- c. Earlier model-years of Access washers (those built before September 2005) did not have a maintenance or Clean Washer cycle.
- d. Some Access washers have a steam option, such as Ms. Sandholm-Pound's newest Duet washer. This feature adds the capability to infuse the washer with steam during the Clean Washer cycle, as well as other wash cycles, which increases the machine's ability to clean itself of biofilm or residues.⁵⁰
- e. Whirlpool employee Joseph Zahn, who was the "mega project" leader for the design and development of the Horizon washers, testified that very few components of the Horizon platform were common with the Access platform.⁵¹ Mr. Zahn also testified about some of the more important differences between Access and Horizon washers, including that:⁵²
 - i. the Horizon wash drum and tub were on a straight horizontal axis, not tilted like the Access washers;

⁴⁸ See, e.g., Whirlpool Duet Sport Front-Loading Automatic Washer, Use & Care Guide, 8540910A, page 23.

⁴⁹ See, e.g., Whirlpool Duet Front-Loading Automatic Washer, Use & Care Guide, 461970236271, page 18.

⁵⁰ See, e.g., Whirlpool Duet Steam Front-Loading Automatic Washer Use & Care Guide, 461970240782, page 10.

⁵¹ Zahn Dep., at 108:12-109:12.

⁵² *Ibid.*, page 211, line 19 to page 212, line 20.

ii. Horizon rear tub design was changed before production to promote rinsing and drainage;

iii. the shape and material of the Horizon crosspiece were changed before production to eliminate pooling and reduce copper content; and

iv. the Horizon Use and Care Guides always have included instructions to leave the door open between uses, to only use HE detergent to avoid performance problems and mold and mildew, and to run Clean Washer cycles.

f. The differences in rates of mold-odor complaints between different generations of Access washers also contradict Dr. Wilson's opinion that all Access washers are similar for purposes of this litigation.⁵³ Further, the differences in rates of mold-odor complaints between the Access washers and the Horizon washers contradict Dr. Wilson's opinion that all Subject Washers are similar for purposes of this litigation.

g. Dr. Hardaway states in his affidavit that all Access platform washers are nearly identical from an engineering standpoint, but does identify functional differences (such as a heater in some models and steam in other models) that can affect sanitation and, therefore, the ability to kill bacteria.⁵⁴ The ability to kill bacteria is a feature that is important for this litigation. Dr. Hardaway did not state in his affidavit that the Access platform and the Horizon platform are nearly identical to each other.

⁵³ Taylor Rebuttal, paragraph 10; Hardaway Affidavit, paragraph 33.

⁵⁴ Hardaway Affidavit, paragraph 6.

13. Dr. Wilson opines that chemical washes do not rinse the internal components of the Subject Washers adequately and that chemical washes cannot reach all of the “problem areas.”⁵⁵ He also opines that chemical washes only reach part of the biofilm and leave part of the machine untouched.⁵⁶ Dr. Wilson fails to cite anything that supports either of these opinions, and at least the following points contradict these opinions:

a. In his first report, Dr. Wilson stated, “[i]n addition, consumer instructions for cleaning processes and special cleaning cycles have been added to the washers. Whirlpool has also made special cleaning tablets available. The effectiveness of these changes have[sp] not been evaluated.”⁵⁷ Dr. Wilson has not described any new work he has done since November 16, 2009 that enabled him to claim that chemical washes cannot reach all of the problem areas, or that they leave part of the machine untouched.

b. I performed experiments to determine whether the Clean Washer cycle rinses the recesses in the back and top walls of the Access washer’s rear tub. In these experiments, four holes (0.34 inches in diameter) were drilled into areas of the rear tub that are recessed when viewed from the interior of the tub. Two additional holes (0.34 inches in diameter) were drilled into the top of the tub. Photographs of the setup and testing are shown in Exhibit E, an example of which is shown in Figure 1. I then operated the washer on the “Clean Washer” cycle and water emanated from all of the holes. The flow of water through the holes drilled in the rear recesses was copious and started flooding the ground around the

⁵⁵ Wilson Rebuttal, page 9, paragraph 9.

⁵⁶ Wilson Rebuttal, page 11, paragraph 3.

⁵⁷ Nov. 16, 2009 Expert Report on Whirlpool Front-Loading Washer of Dr. R. Gary Wilson, at p. 10, 3rd full paragraph.

washer. It is evident that these recessed areas get heavily rinsed by water during the cleaning cycle. A photograph of water flowing through holes in the back of the Duet tub during the “Clean Washer” cycle is shown in Figure 2.

c. Dr. Wilson has provided no proof that the Clean Washer cycle on the Whirlpool Duet washer cannot adequately sanitize the internal surfaces.

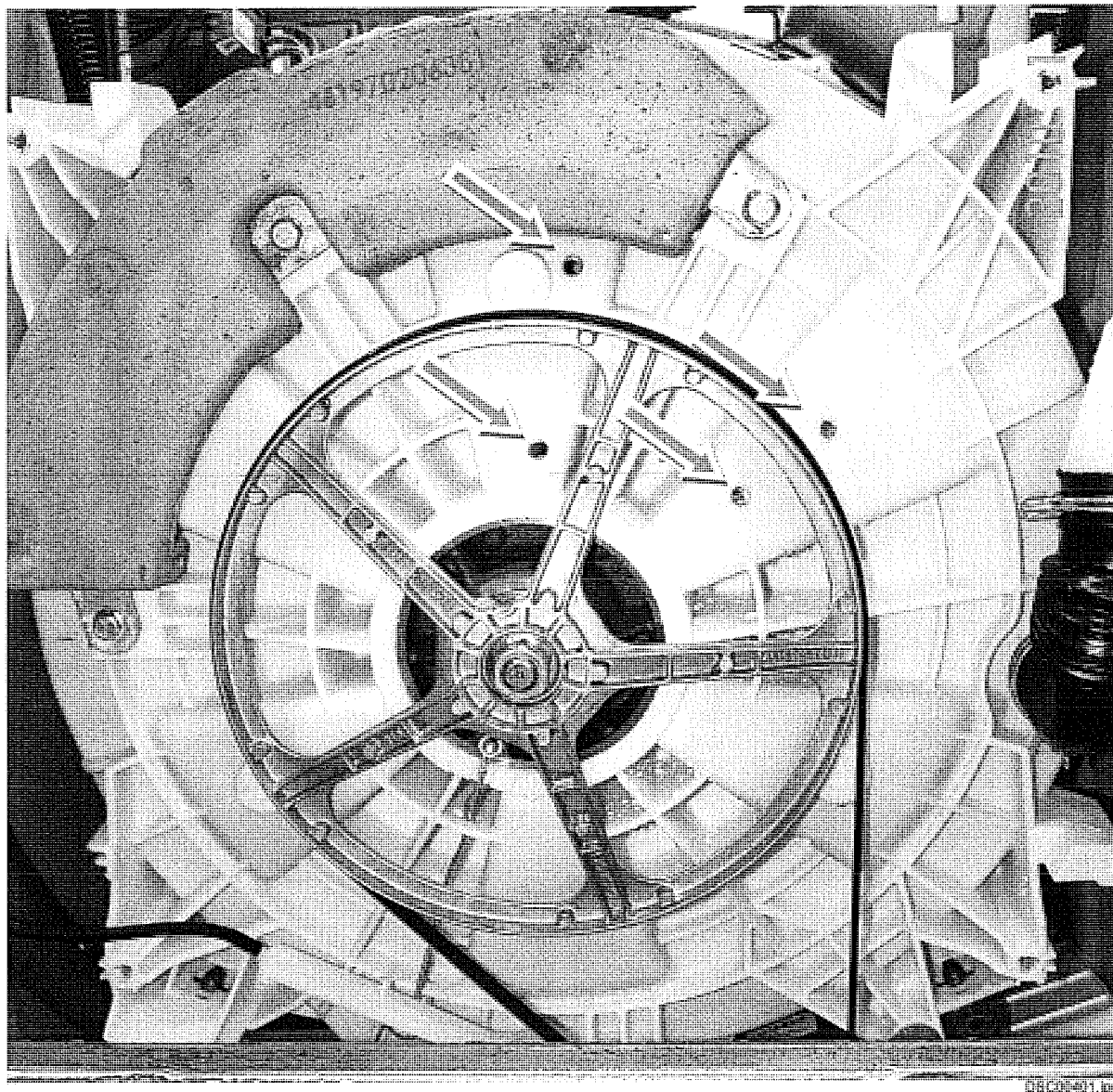


Figure 1. View of Duet HT tub rear showing locations of four holes that were drilled into the back wall in areas that are recessed on the tub interior.

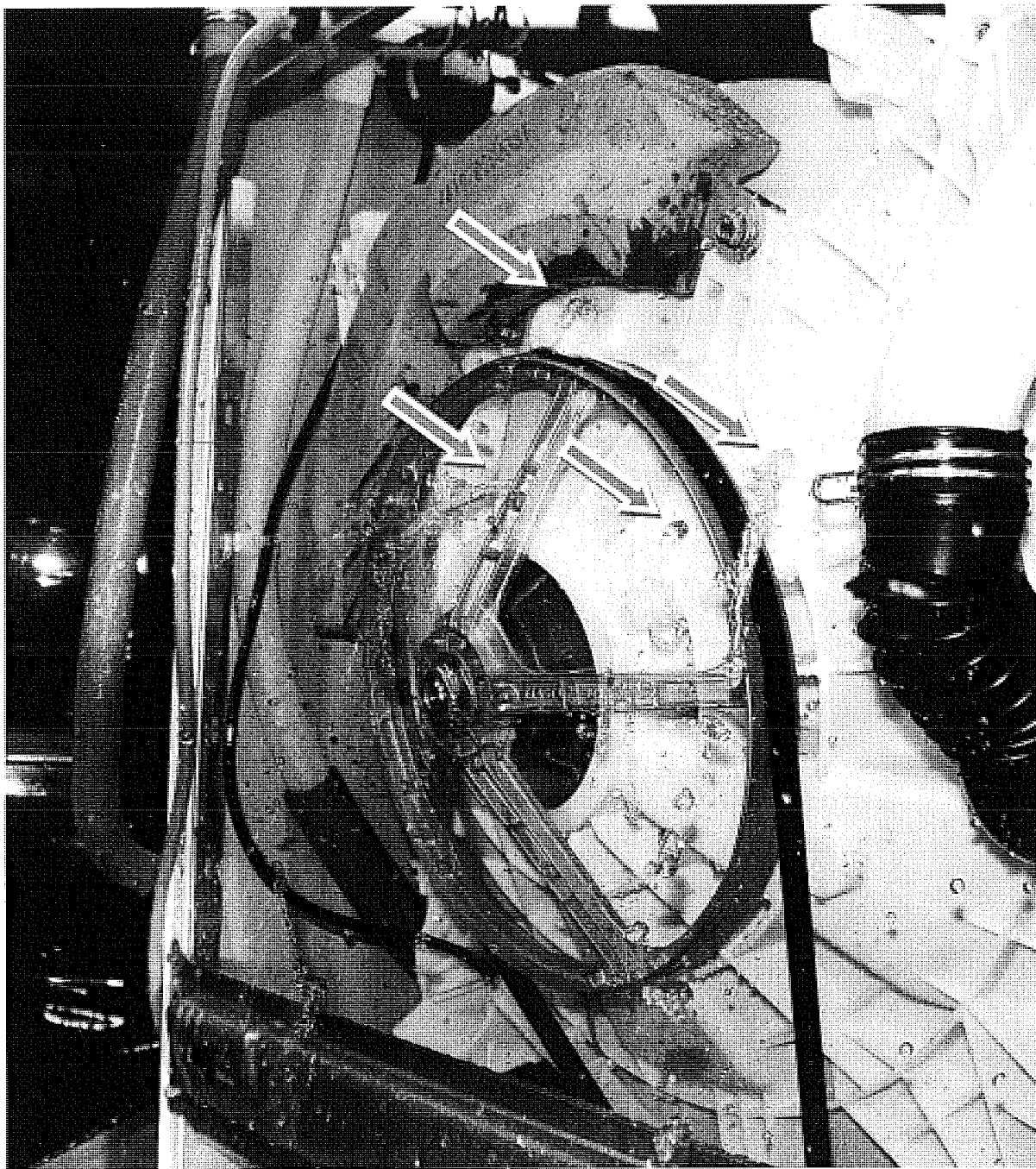


Figure 2. Water flowing through holes drilled in rear tub of Duet HT washer (shown during operation of the Clean Washer cycle). Arrows point to locations of holes.

14. Dr. Wilson has opined that washers must be able to “self clean,” but he provides no published standard or reference for this statement in either of his reports.⁵⁸ In my opinion, Dr. Wilson’s conclusion that the Subject Washers should be able to “self clean” is contradicted by the fact that the Use and Care Guides (and their equivalents) for front-loading washers made by other manufacturers include instructions to consumers to clean their machines. Some manufacturers have added special cleaning cycles to their washers, including some of their top-loading washers, and have instructed their customers to run these cycles periodically.⁵⁹ Dr. Wilson ultimately agrees, later in his report, that the front-loading washer industry has “adopted the need for consumer maintenance with respect to Biofilm.”⁶⁰

15. Dr. Wilson also states that the floating ball, which provides a seal between the drain boot and the wash tub, does not provide a 100% seal.⁶¹ In my opinion, however, the ball valve (or “floating ball” as Dr. Wilson describes it) does not have to seal 100% to be effective in restricting the movement and mixing of fluid from the drain tube to the wash tub, and Dr. Wilson provides no basis for stating otherwise. The combination of the water column and floating ball act as a seal for odors, which might originate in the drain tube, from entering the wash tub.

16. Dr. Wilson opines that the service cycle is only able to remove 80% of existing deposits, quoting a page from Exhibit 35 to the deposition of Dr. Hardaway.⁶² It is my understanding that “service cycle” refers to a cycle that would be run by a service technician, not by a customer.⁶³ Also, the contaminated washers that Dr. Hardaway inspected and tested were a

⁵⁸ Wilson Rebuttal, page 11, paragraph 1.

⁵⁹ Taylor Rebuttal, paragraphs 30-36. Additional references are provided in the footnotes to paragraph 17.

⁶⁰ Wilson Rebuttal, page 11, paragraph 6.

⁶¹ Wilson Rebuttal, page 11, paragraph 2.

⁶² Wilson Rebuttal, page 11, paragraph 5.

⁶³ Hardaway Dep. at 383:10-18.

select group purchased for residue buildup and biofilm.⁶⁴ The ability to clean a washer with pre-existing biofilm build-up is expected to vary with the extent and nature of the contamination.

a. The cleaning cycle has been used effectively by customers such as Ms. Ericka Englert to prevent odor from returning.⁶⁵

b. The document referenced by Dr. Wilson was written before Whirlpool designed and implemented the new Clean Washer cycles, and before Affresh was available (the document is dated 2005, and Affresh was not available until 2007).

c. Affresh has been found to be more effective than bleach.⁶⁶

d. Affresh works best as a preventative measure, though it can help to clean up soiled washers.⁶⁷

e. Washers that are regularly maintained will not build up residue.⁶⁸

17. Dr. Wilson also opines that “[o]nly the front loading washing segment of the industry has adopted the need for consumer maintenance with respect to biofilm and mold, mildew and bacteria remediation.”⁶⁹ He cites no basis for this opinion and, in fact, the evidence is to the contrary:

a. Fisher & Paykel currently produce several top-loading washers. I reviewed the User Guides for their AquaSmart™ and EcoSmart™ series of washers.

⁶⁴ *Ibid.* at 122:15-20. *See also*, Hardaway Ex. 44 at W015089 (citing a need for an in-lab procedure to create biofilm).

⁶⁵ Englert Decl.

⁶⁶ Hardaway Dep. at 479:3-4. *See also*, “GLS Refresher for LAR” at W0086120.

⁶⁷ “GLS Refresher for LAR” at W0086127

⁶⁸ Hardaway Dep. at 463:3-4.

⁶⁹ Wilson Rebuttal, page 11, paragraph 6.

- i. The Guide for the AquaSmart™ washer contains a section titled “Scrud,” where they state: “Scrud is the name given to the waxy build-up that can occur within any washer when fabric softener comes into contact with detergent. This build-up is not brought about by a fault in the washer. If scrud builds up in the washer it can result in stains on the clothes or an unpleasant smell in your washer.”⁷⁰
- ii. For remediation, the Guide instructs the user: “Clean your washer regularly using the CLEAN-ME cycle (see page 32).”⁷¹
- iii. The importance of running the CLEAN ME cycle is emphasized in the section entitled “Caring for your AquaSmart™ washer”, in the subsection “Cleaning the Inside of your washer.” The Guide instructs the user “It is important that you occasionally clean the inside of your washer. Your *AquaSmart™* has a self cleaning cycle specifically for this purpose. We recommend that you use the CLEAN ME cycle 5-6 times a year and that you do not wash clothes during this cycle.”⁷²
- iv. The Guide also instructs the user to manually clean the dispenser: “The funnel of the fabric softener (the top) clicks off easily. Simply place a finger down the center and lift. The remaining siphon tube and Fabric Softener well is not removable and needs to be wiped clean periodically with hot water and an old toothbrush. If the siphon tube looks partially blocked use a cotton bud to clean.”⁷³

⁷⁰ Fisher & Paykel, Installation instructions and user guide, part no. 478139, page 22.

⁷¹ *Ibid.*

⁷² *Ibid.*, page 32.

⁷³ *Ibid.*, page 22.

- v. The Guide for the EcoSmart™ washer also contains a section titled “Scrud” with language similar to that in the AquaSmart™ Guide.⁷⁴
 - vi. The Guide for the Eco Smart™ washer also provides directions for cleaning the inside of the Ecosmart™ washer using a hot wash, and include the instructions: “It’s a good idea to clean the machine using this cycle without clothes and a couple of cups of powered detergent, every few months.”⁷⁵
- b. Kenmore, in the Use and Care Guide for their 500 model top-load washer provides instructions to the user on cleaning the interior, in the section titled “WASHER CARE”, in the subsection “Cleaning Your Washer”: “Clean your washer interior by mixing 1 cup (250 mL) of chlorine bleach and enough detergent to equal twice the manufacturer’s recommended amount for a normal wash load. Pour this mixture into your washer and run it through a complete cycle using hot water. Repeat this process if necessary.”⁷⁶
- c. GE, in the Owner’s Manual for some of their top-loading washers, includes the following instructions to the user: “**Interior:** The occasional use of a cycle that contains bleach will keep the inside of the washer clean.”⁷⁷ The Owner’s Manual also states: “Wash Basket: Leave the lid open after washing to allow moisture to evaporate. If you want to clean the basket, use a clean, soft cloth

⁷⁴ Fisher & Paykel, Installation instructions and user guide, Clothes washer, part no. 420900C, page 25.

⁷⁵ *Ibid.*, page 30.

⁷⁶ Kenmore Washer Use and Care Guide, part number W10026670A, page 5.

⁷⁷ GE Washers, Owner’s Manual, P620, 175D1807P620, 49-90352-2, page 7.

dampened with liquid detergent; then rinse. (Do not use harsh or gritty cleaners.)”⁷⁸

- d. The Use and Care Guide for the Roper-brand top-load washer, in the section “WASHER CARE”, in the subsection “Cleaning Your Washer”, instructs the user: “Clean you washer interior by mixing 1 cup (250 mL) of chlorine bleach and 2 cups (500 mL) of detergent. Pour this mixture into your washer and run it through a complete cycle using hot water. Repeat this process if necessary.”⁷⁹
- e. The Use and Care Guide for the Maytag Bravos top-load washer contains instructions for cleaning the washer.⁸⁰
 - i. “Use the Clean Washer with AFFRESH™ cycle once a month to keep the inside of your washer fresh and clean. This cycle uses a higher water level. Use with AFFRESH® washer cleaner tablet or liquid chlorine bleach to thoroughly clean the inside of your washing machine. This cycle should not be interrupted.” See “Cleaning Your Washer.”⁸¹ The Guide also instructs the user to run this cycle with an empty wash tub.
 - ii. The Bravos contains a “Clean Washer Reminder” that lights up after 45 wash cycles that reminds the user it is time to run a Clean Washer cycle.⁸²

⁷⁸ *Ibid.*

⁷⁹ Roper® Washer User Instructions, W10200824A, SP W10200825A, page 6.

⁸⁰ Maytag Bravos® Automatic Washer, Use and Care Guide, W10092822B, W10092823B – SP, pages 9 and 12.

⁸¹ *Ibid.*

⁸² *Ibid.*, pages 9 and 12.

- iii. In the section “Washer Care”, in the subsection “**Always do the following to maintain washer freshness,**” the Guide instructs the user: “Repeat the cleaning procedure monthly, using one AFFRESH® clean washer tablet or 1 cup (250 mL) of liquid chlorine bleach.”⁸³
- f. The Use and Care Guide for the Whirlpool Cabrio top-loader also instructs the user to run a Clean Washer cycle: “Use the Clean Washer cycle once a month to keep the inside of your washer fresh and clean. This cycle uses a higher water level. Use with AFFRESH® washer cleaner tablet or liquid chlorine bleach to thoroughly clean the inside of your washing machine. This cycle should not be interrupted. *See* “Cleaning Your Washer.”⁸⁴
- g. The Owner’s Manual for the GE Profile Washer contains the following instructions under “Care and cleaning of the washer:”⁸⁵

Interior: The occasional use of a cycle that contains bleach will keep the inside of the washer clean.

The Owner’s Manual also instructs the consumer: “Leave the lid open after washing to allow moisture to evaporate.”
- h. Clorox bleach labels also instruct customers “**Safely reduces odor-causing bacteria** that may build up in your HE machine.”⁸⁶ The label does not make any distinction between front and top-loading HE washers.
- i. In my opinion, the need to periodically clean the inside of the washer is not restricted to front-loaders. As described above, contrary to Dr. Wilson’s

⁸³ *Ibid.*, page 12.

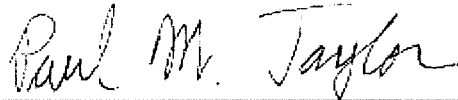
⁸⁴ CABRIO® Automatic Washer with 6th Sense® Technology, Use & Care Guide, W10240440C, W10240441C – SP, page 9.

⁸⁵ GE Profile Washers, Owner’s Manual, P619, 175D1807P619, page 7.

⁸⁶ Such as found on the label of a bottle of Clorox Plus™ bleach, High Efficiency, observed at the Glennon residence.

opinion, several manufacturers of top-loaders have emphasized the need for their users to clean the interior of the washers, often using a cycle specially programmed for that purpose.

Signed this 15th day of January, 2010.

A handwritten signature in cursive script that reads "Paul M. Taylor". The signature is written in black ink and is positioned above a horizontal line.

Paul Taylor, Ph.D., P.E.

EXHIBIT A

Product Literature:

Fisher & Paykel, *Installation Instructions and User Guide*, Ecosmart™ Clothes Washer, Part No. 420900C, 1/09

Fisher & Paykel, *Installation Instructions and User Guide*, AquaSmart™ Clothes Washer, Part No. 478139, 2/09

Frigidaire, *Use & Care Guide*, Washer, P/N 137153200A, 9/04

GE Profile Washers, *Owner's Manual*, P619, 175D1807P619, 12/08

GE Washers, *Owner's Manual*, P620, 175D1807P620, 12/08

Kenmore, *Elite HE³ Front-Loading Automatic Washer Owner's Manual and Installation Instructions*, Doc. No. 461970205515.

Kenmore, *Elite HE⁴ Front-Loading Automatic Washer Owner's Manual and Installation Instructions*, Doc. No. 461970228992, 5/06

Maytag Bravos® Automatic Washer *Use & Care Guide*, S10092822B, 7/09

Roper® Washer *User Instructions*, W10200824A, 6/08

Kenmore, *Washer Use & Care Guide*, W100026670A, 7/08

Whirlpool, *Cabrio® Automatic Washer with 6th Sense® Technology Use & Care Guide*, W10240440C, 4/09

Deposition Transcripts:

Victor Matos, July 9, 2009

Martin Champion, August 14, 2009

Sean Chapman, October 5, 2009

Joseph Zahn, October 7, 2009

Reports, Declarations, and Affidavits:

Supplemental Report to Expert Report on Whirlpool Front-Loading Washer, Dr. R. Gary Wilson, Ph.D., P.E., January 4, 2009

Affidavit of Anthony H. Hardaway, 8/18/08

Whirlpool Documents:

“Top Delivery and Installation Issues – Top Load Agitator-Based Washers,” W0398708
Top Fabric Care Customer Instruct Items to be addressed with Sales Associates, Duet,”
W0398709-710, Calypso, W0398711-12

“Top Delivery and Installation Considerations – Front Load Washers,” W0398713

“Customers Should Use High Efficiency Detergents for Calypso® and Duet® Washers – Why?,”
W0398714

Email from Stephen M. Groppel, “Message from Corporate Communications – Laundry Field
Memos,” 4/5/04, W0398705-707

Email from David F. Walberg, “GLS Testing,” 3/23/01, W0362177

Presentation: “Bio Film,” 2005, W0159339-W0159353

Memo from Anthony F. Hardaway to Harvey D. Fluellen, “Re: Clean Out Cycle,” 2/2/405,
W0421240-42

“120 Bleach Cycle Reliability Test – Access Field Return Washers,” 3/28/05, W0020838

“120 Bleach Cycle Reliability Test – Access Field Return Washers,” 3/31/05, W0020839-45

Laboratory Report: “ACCESS Basket – Crosspiece and Lifters,” 7/24/01, W0111403-06

“Delta Aluminum Die Cast Drum Cross Piece Detergent/Bleach Immersion/Vapor Corrosion
Test,” 1/7/00, W0047932

Photograph, Crosspiece, W0047933

Article, “Corrosion in the Chemical Processing Industry,” W0047934-5

Article, “Corrosion-Resistant Materials,” W0047936-39

Email from Charles R. Cravens, “Re: Crosspiece corrosion testing,” 7/25/07, W0080392-95

Email from Leonard G. Erickson, “Delta Drum Cross Piece – EVAL-188,” 1/7/00, W0047931

Hardaway, Anthony for Whirlpool, “GLS Refresher for LAR,” 8/12/08, W0086117-W0086129

Conrad, Dick for Whirlpool, Letter to Karin Weisburgh of Consumers Union, 11/24/04,
W0055037-W0055040

Sears Home Services Communication, 10/15/04, S0032902-908

Sears Training Bulletin TB26-74, December 2005: "Washer Cleaning and Continued Care," S0012226-7

Whirlpool website: FAQ's – "How do I clean my front-load washer door seal?" 1/10/01, http://whirlpool.custhelp.com/app/answers/detail/a_id/2397/sno/0

Whirlpool website: FAQ's, 4/8/09, W0192414-W0192434

Whirlpool Employee Survey, W0021005-21027.

Miscellaneous:

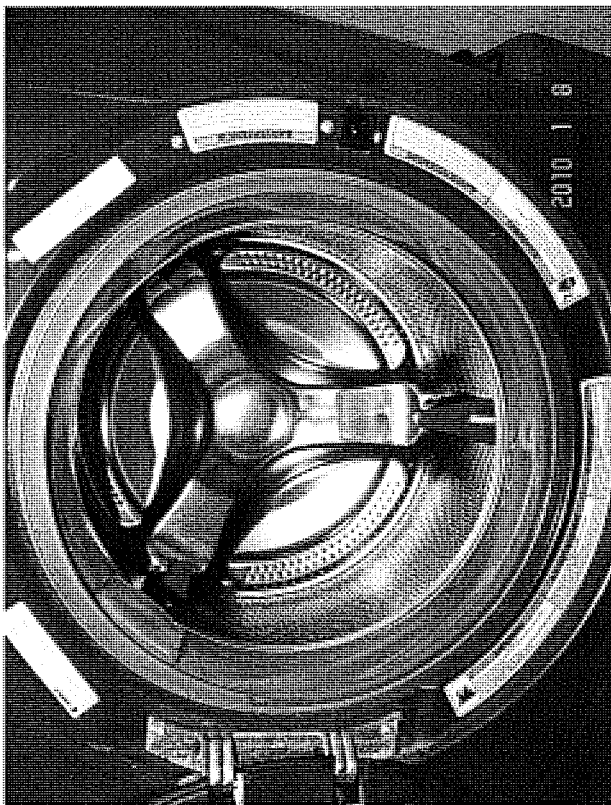
Association of Home Appliance Manufacturers (AHAM), "Consumer Information on Clothes Washers and Odor, Mold and Mildew."

The Soap and Detergent Association, "High Efficiency Washers and Detergents," 2005

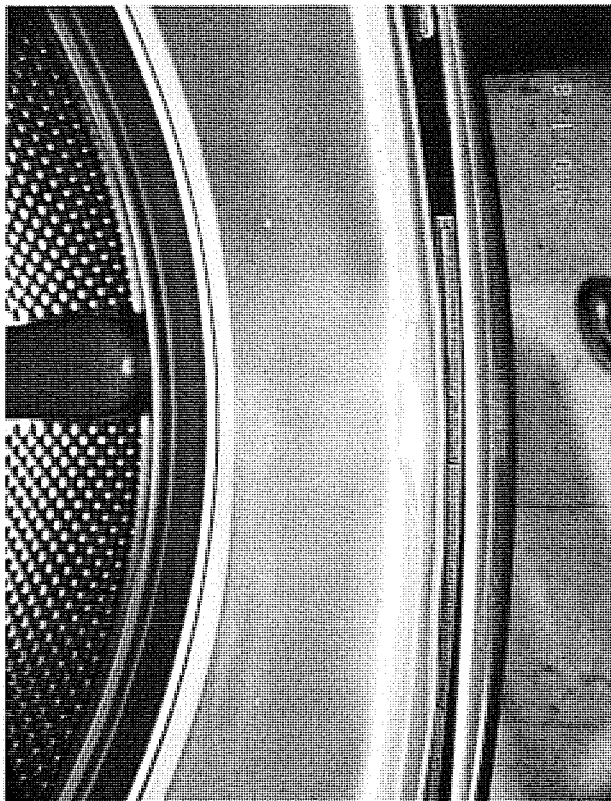
Exhibit B

Photographs of Washer at Champion
Residence

Washer at the Champion Residence



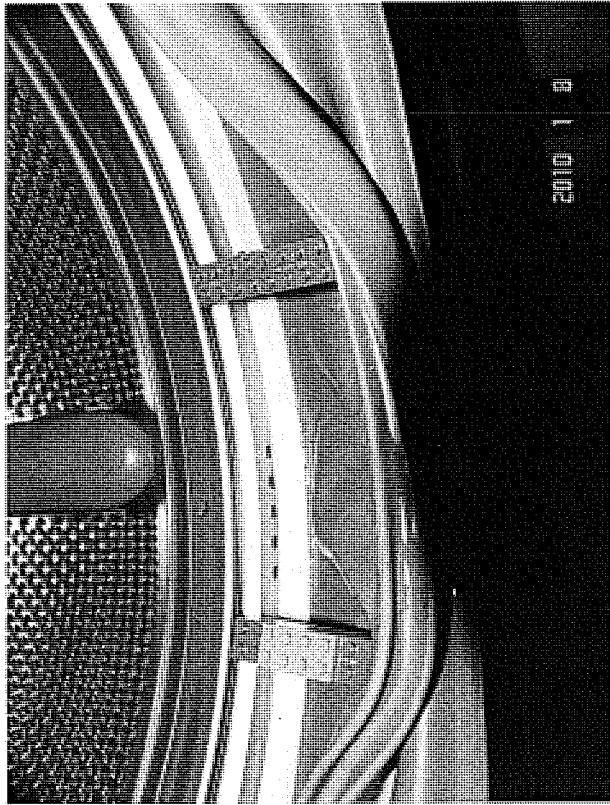
Basket Interior
DSC00012.jpg



Seal Exterior at 6:00
DSC00030.jpg

Exhibit B - 2

Washer at the Champion Residence



Inside Seal at drain holes

DSC00038.jpg



Seal Interior at 2:00

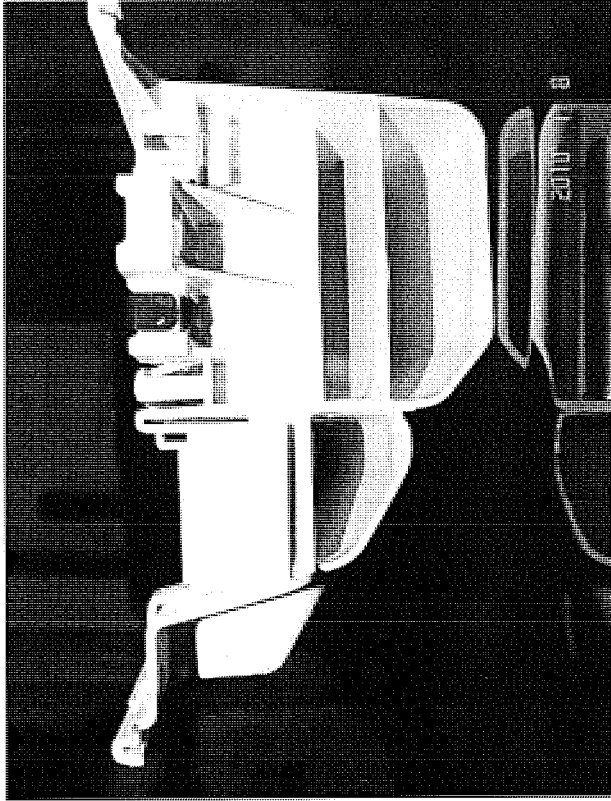
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Washer at the Champion Residence



Top of Soap Dispenser

DSC00061.jpg

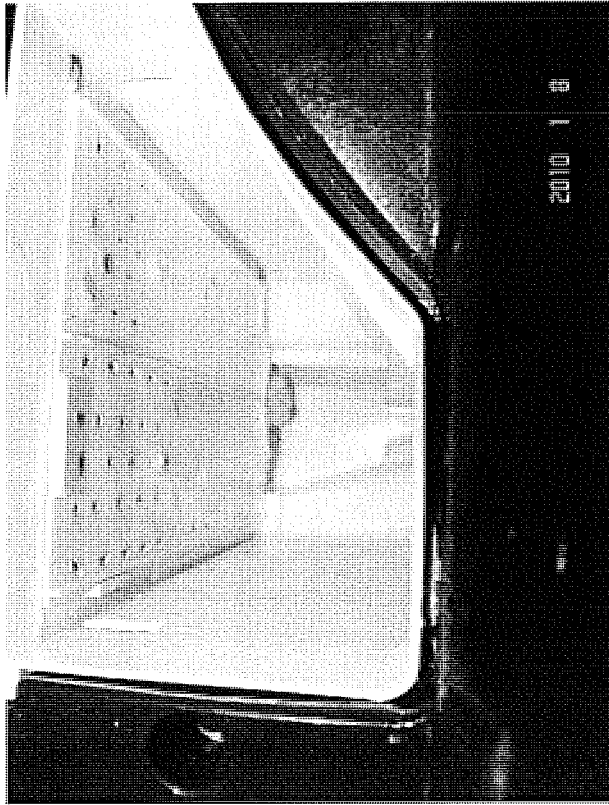


Back of Soap Dispenser

DSC00062.jpg

Exhibit B - 4

Washer at the Champion Residence



Soap Dispenser Cavity

DSC00075.jpg

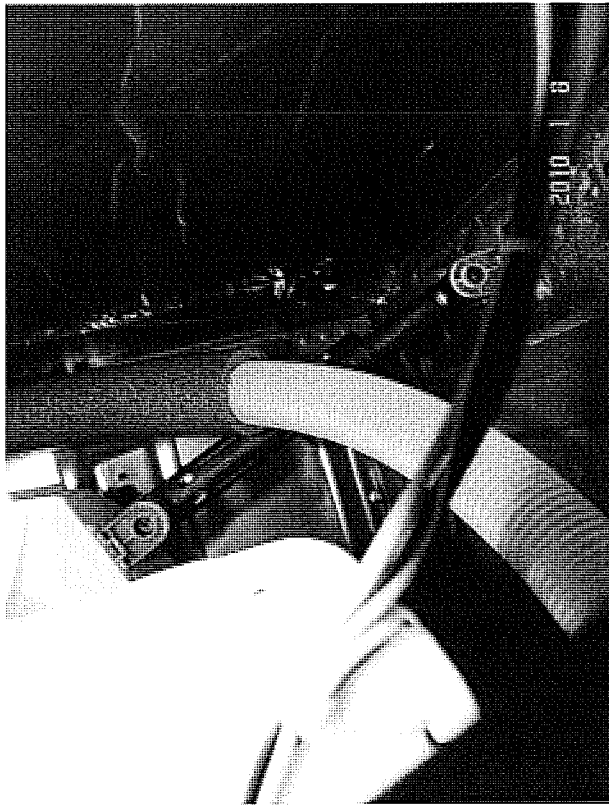


Drain Hose Near Pump

DSC00165.jpg

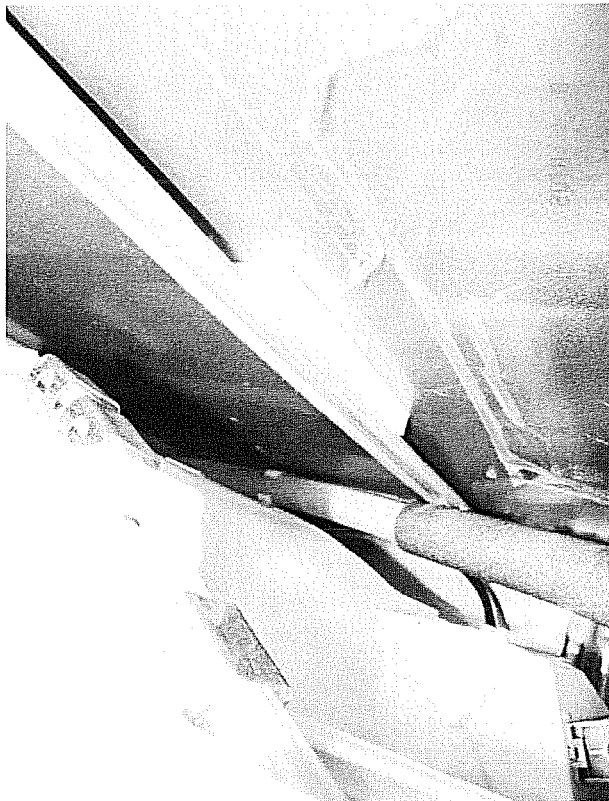
Exhibit B - 5

Washer at the Champion Residence



Drain Hose Near Pump

DSC00162.jpg



Drain Hose Vertical Section

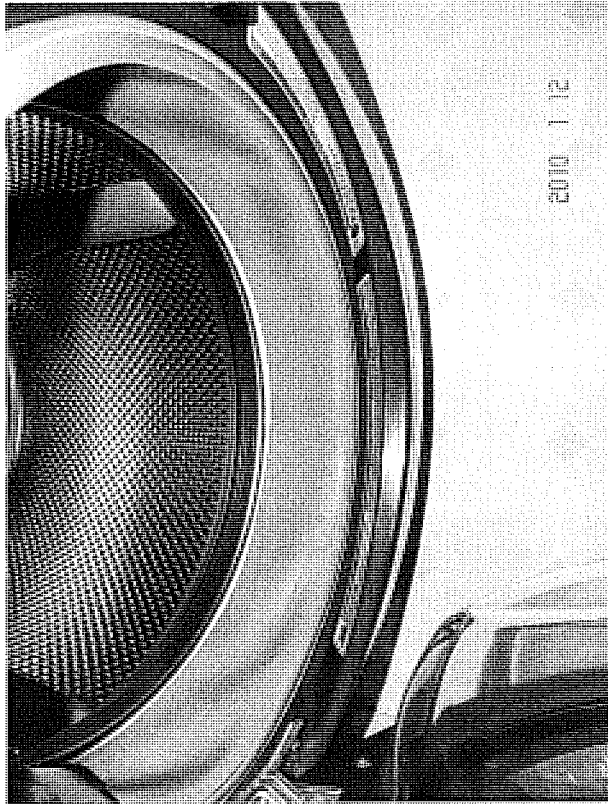
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Exhibit B - 6

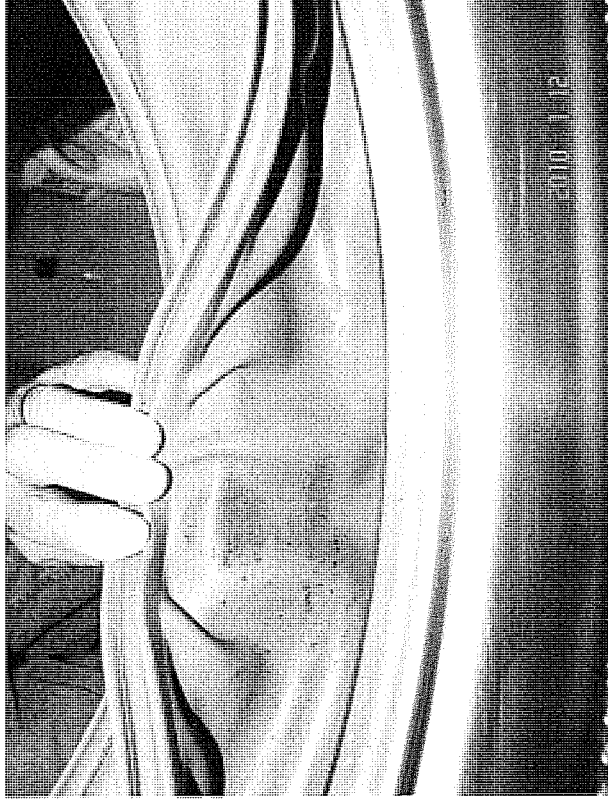
Exhibit C

Photographs of Washer at Matos
Residence

Washer at the Matos Residence

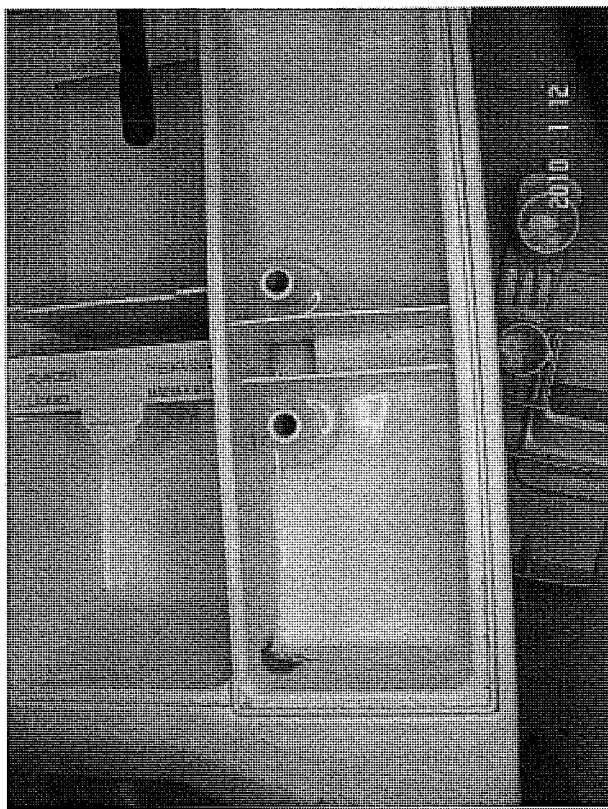


Seal Exterior
DSC00265.jpg



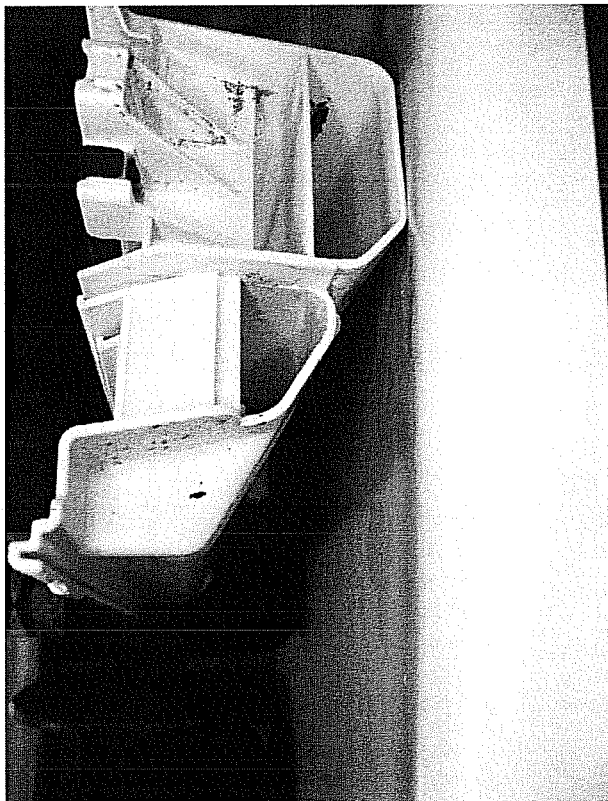
Seal Exterior at 6:00
DSC00275.jpg

Washer at the Matos Residence



Soap Dispenser (Tray removed)

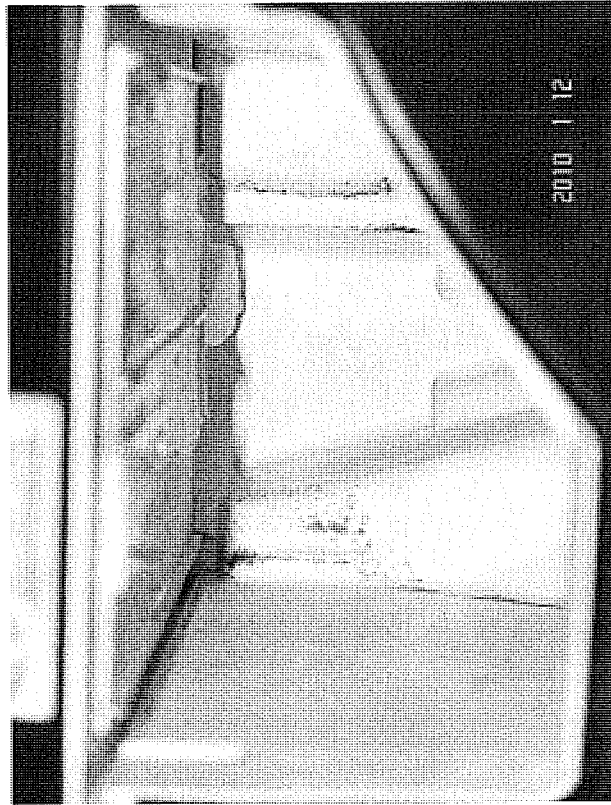
DSC00229.jpg



Back of Soap Dispenser

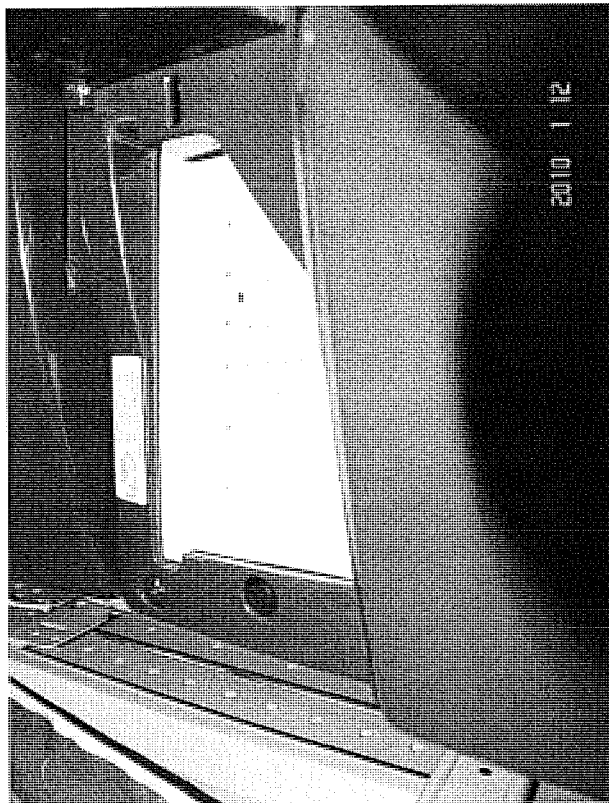
DSC00236.jpg

Washer at the Matos Residence



Soap Dispenser Cavity

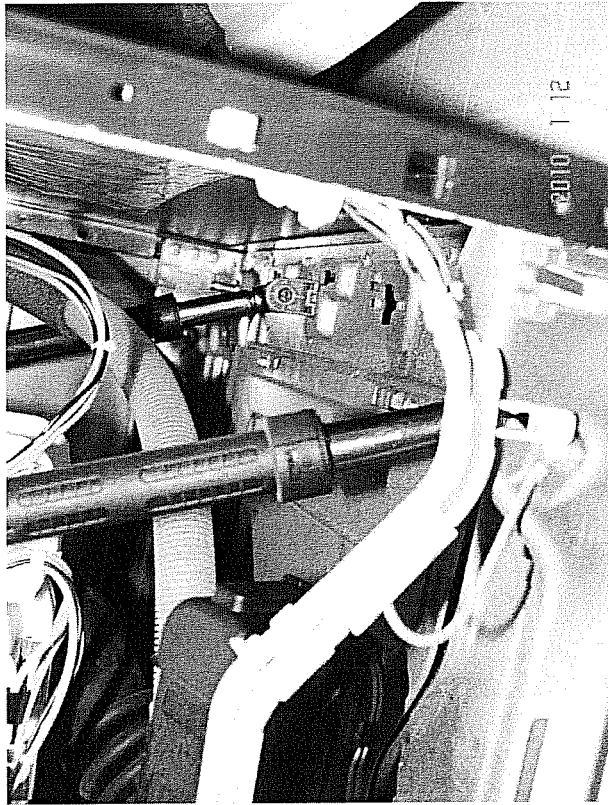
DSC00251.jpg



Top of Soap Dispenser Cavity

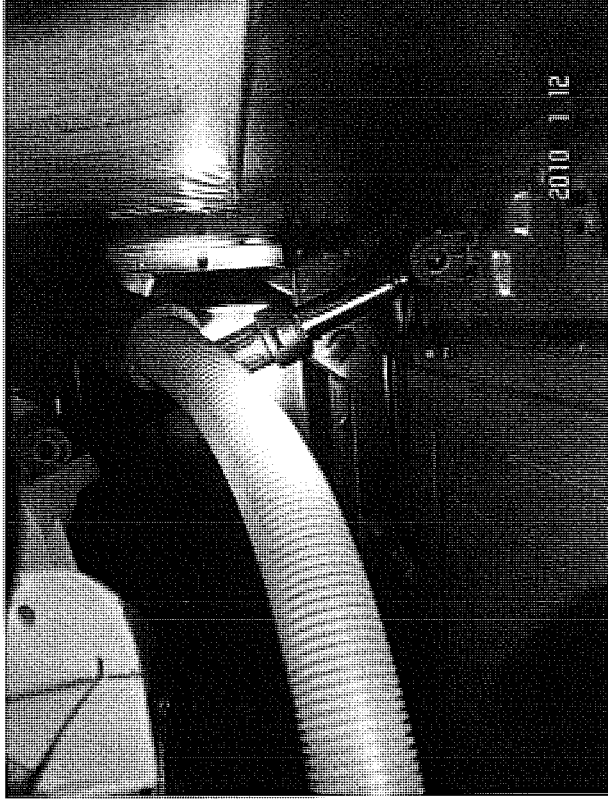
DSC00246.jpg

Washer at the Matos Residence



Drain Hose Near Pump

DSC00349.jpg



Drain Hose Near Pump

DSC00359.jpg

Exhibit D

Lab Results from Surface Samples of the Schaeffer Washer

Culturable Bacteria

Culturable Fungi

Tape Lift

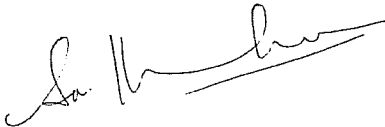
EMLab P&K

Report for:

Mr. Paul Taylor
Exponent Health Group: CA
500 12th Street Suite 220
Oakland, CA 94607

Regarding: Project: 0905565.000; WP Duet
EML ID: 581364

Approved by:



Lab Manager
Dr. Kamashwaran Ramanathan

Dates of Analysis:

3-Media fungi surface culture (Incl. Asp. spp.): 09-25-2009
Bacteria surface culture 5-Genus ID: 10-05-2009
Direct microscopic exam (Qualitative): 09-17-2009

Project SOPs: 3-Media fungi surface culture (Incl. Asp. spp.) (I100001), Bacteria surface culture 5-Genus ID (100214), Direct microscopic exam (Qualitative) (I100005)

This coversheet is included with your report in order to comply with AIHA and ISO accreditation requirements.

For clarity, we report the number of significant digits as calculated; but, due to the nature of this type of biological data, the number of significant digits that is used for interpretation should generally be one or two. All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank corrections of results is not a standard practice. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Document Number: 200091 - Revision Number: 5

EMLab P&K1150 Bayhill Drive, Suite 100, San Bruno, CA 94066
(866) 888-6653 Fax (650) 829-5852 www.emlab.comClient: Exponent Health Group: CA
C/O: Mr. Paul Taylor
Re: 0905565.000; WP DuetDate of Sampling: 09-15-2009
Date of Receipt: 09-16-2009
Date of Report: 10-05-2009**SURFACE CULTURE BACTERIA REPORT**

Lab ID-Version† Location	Sample Size/ Report Unit	Medium	Dilution Factor	Bacterial ID	Colony Counts	CFU/unit	%
2578527-1 SCH-SW1-BAC Inside gasket	Size: 1 swab Unit: 1 swab	TSA	100,000	Gram positive rods	> 300	> 30,000,000 § Total: > 30,000,000	100 100
Comments:							
2578528-1 SCH-SW2-BAC Outside gasket	Size: 1 swab Unit: 1 swab	TSA	100,000	Gram negative rods Gram positive rods Micrococcus sp. Non-viable bacteria	10 > 300 3 9	1,000,000 > 30,000,000 300,000 900,000 § Total: > 32,000,000	3 93 1 3 100
Comments:							
2578529-1 SCH-SW3-BAC SS drum	Size: 1 swab Unit: 1 swab	TSA	10	No bacteria detected		§ Total: < 10	100
Comments:							
2578530-1 SCH-SW4-BAC Soap dep. cav	Size: 1 swab Unit: 1 swab	TSA	10	Gram positive rods	28	280 § Total: 280	100 100
Comments:							
2578531-1 SCH-SW5-BAC End of drain pipe	Size: 1 swab Unit: 1 swab	TSA	100,000	Bacillus Gram negative rods Gram positive rods	> 300 > 300 > 300	> 30,000,000 > 30,000,000 > 30,000,000 § Total: > 90,000,000	33 33 33 100
Comments:							
2578532-1 SCH-SW6-BAC Drain elbow	Size: 1 swab Unit: 1 swab	TSA	100,000	Gram positive rods Gram positive rods, type II	> 300 > 300	> 30,000,000 > 30,000,000 § Total: > 60,000,000	50 50 100
Comments:							
2578533-1 SCH-SW7-BAC Top of door	Size: 1 swab Unit: 1 swab	TSA	1,000	Bacillus Bacillus sp. type II Gram positive rods	2 1 6	2,000 1,000 6,000 § Total: 9,000	22 11 67 100
Comments:							

When detected, the minimum detection and reporting limit is a colony count of 1 at the lowest dilution plated.

† A "Version" greater than 1 indicates amended data.

§ Total has been rounded to two significant figures to reflect analytical precision.

TestAmerica Environmental Microbiology Laboratory, Inc.

EMLab ID: 581364, Page 1 of 1

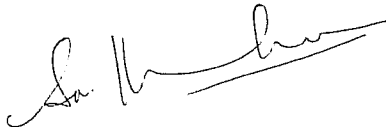
EMLab P&K

Report for:

Mr. Paul Taylor
Exponent Health Group: CA
500 12th Street Suite 220
Oakland, CA 94607

Regarding: Project: 0905565.000; WP Duet
EML ID: 581364

Approved by:



Lab Manager
Dr. Kamashwaran Ramanathan

Dates of Analysis:

3-Media fungi surface culture (Incl. Asp. spp.): 09-25-2009
Direct microscopic exam (Qualitative): 09-17-2009

Project SOPs: 3-Media fungi surface culture (Incl. Asp. spp.) (I100001), Direct microscopic exam (Qualitative) (I100005)

This coversheet is included with your report in order to comply with AIHA and ISO accreditation requirements.

For clarity, we report the number of significant digits as calculated; but, due to the nature of this type of biological data, the number of significant digits that is used for interpretation should generally be one or two. All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank corrections of results is not a standard practice. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Document Number: 200091 - Revision Number: 5

EMLab P&K1150 Bayhill Drive, Suite 100, San Bruno, CA 94066
(866) 888-6653 Fax (650) 829-5852 www.emlab.comClient: Exponent Health Group: CA
C/O: Mr. Paul Taylor
Re: 0905565.000; WP DuetDate of Sampling: 09-15-2009
Date of Receipt: 09-16-2009
Date of Report: 09-25-2009**FUNGAL CULTURE REPORT**

Location:	SCH-SW1-FUN: Inside gasket			SCH-SW2-FUN: Outside gasket		
Comments (see below)	None			None		
Sample type	Swab sample			Swab sample		
Media used	Cellulose/DG18/MEA			Cellulose/DG18/MEA		
Lab ID-Version‡:	2578502-1			2578504-1		
	sample ct.†	%	cfu*/unit	sample ct.†	%	cfu*/unit
Acremonium						
Alternaria						
Aspergillus flavus						
Aspergillus fumigatus						
Aspergillus nidulans						
Aspergillus niger						
Aspergillus ochraceus						
Aspergillus versicolor						
Aureobasidium						
Bipolaris/Drechslera group						
Botrytis						
Chaetomium						
Cladosporium	500	< 1	500			
Curvularia						
Epicoccum						
Fusarium						
Non-sporulating fungi						
Paecilomyces						
Penicillium						
Scopulariopsis	140,000	100	140,000	200	40	200
Stachybotrys chartarum						
Ulocladium						
Yeasts				300	60	300
Dilutions††	1:10, 1:100, 1:1,000 & 1:10,000			1:10, 1:100, 1:1,000 & 1:10,000		
Sample size	1			1		
Unit	1 swab			1 swab		
§ TOTAL CFU*/unit	140,000			500		

* cfu = colony forming units

Caution should be used when interpreting percentages. Totals may not equal 100 due to rounding.

Comments:

† Sample count is the calculated number of colonies that would have grown if the entire selected sample size analyzed were plated out.

†† Results represent a compiled result from multiple media and multiple dilutions. Sensitivity of the results depends largely upon the dilutions used and the size of the sample. For example, a dilution of 1:100 means that 1 colony on a plate represents a sample count of 100. For a sample of 0.025 grams, this would represent 4,000 cfu/gram. For a sample of 0.002 grams, this would represent 50,000 cfu/gram.

When detected, the minimum detection and reporting limit is a colony count of 1 at the lowest dilution plated.

Interpretation is left to the company and/or persons who conducted the field work.

‡ A "Version" greater than 1 indicates amended data.

§ Total CFU/unit has been rounded to two significant figures to reflect analytical precision.

EMLab P&K1150 Bayhill Drive, Suite 100, San Bruno, CA 94066
(866) 888-6653 Fax (650) 829-5852 www.emlab.comClient: Exponent Health Group: CA
C/O: Mr. Paul Taylor
Re: 0905565.000; WP DuetDate of Sampling: 09-15-2009
Date of Receipt: 09-16-2009
Date of Report: 09-25-2009**FUNGAL CULTURE REPORT**

Location:	SCH-SW3-FUN: SS drum			SCH-SW4-FUN: Soap dep. cav		
Comments (see below)	None			None		
Sample type	Swab sample			Swab sample		
Media used	Cellulose/DG18/MEA			Cellulose/DG18/MEA		
Lab ID-Version†:	2578506-1			2578508-1		
	sample ct.†	%	cfu*/unit	sample ct.†	%	cfu*/unit
Acremonium						
Alternaria						
Aspergillus flavus						
Aspergillus fumigatus						
Aspergillus nidulans						
Aspergillus niger						
Aspergillus ochraceus						
Aspergillus versicolor						
Aureobasidium						
Bipolaris/Drechslera group						
Botrytis						
Chaetomium						
Cladosporium						
Curvularia						
Epicoccum						
Fusarium						
Non-sporulating fungi						
Paecilomyces						
Penicillium						
Scopulariopsis						
Stachybotrys chartarum						
Ulocladium						
Yeasts						
Dilutions††	1:10, 1:100, 1:1,000 & 1:10,000			1:10, 1:100, 1:1,000 & 1:10,000		
Sample size	1			1		
Unit	1 swab			1 swab		
§ TOTAL CFU*/unit	< 10			< 10		

* cfu = colony forming units

Caution should be used when interpreting percentages. Totals may not equal 100 due to rounding.

Comments:

† Sample count is the calculated number of colonies that would have grown if the entire selected sample size analyzed were plated out.
 †† Results represent a compiled result from multiple media and multiple dilutions. Sensitivity of the results depends largely upon the dilutions used and the size of the sample. For example, a dilution of 1:100 means that 1 colony on a plate represents a sample count of 100. For a sample of 0.025 grams, this would represent 4,000 cfu/gram. For a sample of 0.002 grams, this would represent 50,000 cfu/gram.

When detected, the minimum detection and reporting limit is a colony count of 1 at the lowest dilution plated.

Interpretation is left to the company and/or persons who conducted the field work.

† A "Version" greater than 1 indicates amended data.

§ Total CFU/unit has been rounded to two significant figures to reflect analytical precision.

EMLab P&K1150 Bayhill Drive, Suite 100, San Bruno, CA 94066
(866) 888-6653 Fax (650) 829-5852 www.emlab.comClient: Exponent Health Group: CA
C/O: Mr. Paul Taylor
Re: 0905565.000; WP DuetDate of Sampling: 09-15-2009
Date of Receipt: 09-16-2009
Date of Report: 09-25-2009**FUNGAL CULTURE REPORT**

Location:	SCH-SW5-FUN: End of drain pipe			SCH-SW6-FUN: Drain elbow		
Comments (see below)	None			None		
Sample type	Swab sample			Swab sample		
Media used	Cellulose/DG18/MEA			Cellulose/DG18/MEA		
Lab ID-Version†:	2578510-1			2578512-1		
	sample ct.†	%	cfu*/unit	sample ct.†	%	cfu*/unit
Acremonium						
Alternaria						
Aspergillus flavus						
Aspergillus fumigatus						
Aspergillus nidulans						
Aspergillus niger	30	1	30			
Aspergillus ochraceus						
Aspergillus versicolor						
Aureobasidium						
Bipolaris/Drechslera group						
Botrytis						
Chaetomium						
Cladosporium						
Curvularia						
Epicoccum						
Fusarium						
Non-sporulating fungi						
Paecilomyces	2,900	85	2,900			
Penicillium	100	3	100			
Scopulariopsis						
Stachybotrys chartarum						
Ulocladium						
Yeasts	400	12	400	10	100	10
Dilutions††	1:10, 1:100, 1:1,000 & 1:10,000			1:10, 1:100, 1:1,000 & 1:10,000		
Sample size	1			1		
Unit	1 swab			1 swab		
§ TOTAL CFU*/unit	3,400			10		

* cfu = colony forming units

Caution should be used when interpreting percentages. Totals may not equal 100 due to rounding.

Comments:

†Sample count is the calculated number of colonies that would have grown if the entire selected sample size analyzed were plated out.
 ††Results represent a compiled result from multiple media and multiple dilutions. Sensitivity of the results depends largely upon the dilutions used and the size of the sample. For example, a dilution of 1:100 means that 1 colony on a plate represents a sample count of 100. For a sample of 0.025 grams, this would represent 4,000 cfu/gram. For a sample of 0.002 grams, this would represent 50,000 cfu/gram.
 When detected, the minimum detection and reporting limit is a colony count of 1 at the lowest dilution plated.
 Interpretation is left to the company and/or persons who conducted the field work.
 ‡ A "Version" greater than 1 indicates amended data.
 § Total CFU/unit has been rounded to two significant figures to reflect analytical precision.

EMLab P&K1150 Bayhill Drive, Suite 100, San Bruno, CA 94066
(866) 888-6653 Fax (650) 829-5852 www.emlab.comClient: Exponent Health Group: CA
C/O: Mr. Paul Taylor
Re: 0905565.000; WP DuetDate of Sampling: 09-15-2009
Date of Receipt: 09-16-2009
Date of Report: 09-25-2009**FUNGAL CULTURE REPORT**

Location:	SCH-SW7-FUN: Top of door		
Comments (see below)	None		
Sample type	Swab sample		
Media used	Cellulose/DG18/MEA		
Lab ID-Version†:	2578514-1		
	sample ct.†	%	cfu*/unit
Acremonium			
Alternaria			
Aspergillus flavus			
Aspergillus fumigatus			
Aspergillus nidulans			
Aspergillus niger			
Aspergillus ochraceus			
Aspergillus versicolor			
Aureobasidium	4,400	30	4,400
Bipolaris/Drechslera group			
Botrytis			
Chaetomium	100	1	100
Cladosporium			
Curvularia			
Epicoccum			
Fusarium			
Non-sporulating fungi			
Paecilomyces			
Penicillium			
Scopulariopsis			
Stachybotrys chartarum			
Ulocladium			
Yeasts	10,000	69	10,000
Dilutions††	1:10, 1:100, 1:1,000 & 1:10,000		
Sample size	1		
Unit	1 swab		
§ TOTAL CFU*/unit	15,000		

* cfu = colony forming units

Caution should be used when interpreting percentages. Totals may not equal 100 due to rounding.

Comments:

†Sample count is the calculated number of colonies that would have grown if the entire selected sample size analyzed were plated out.

††Results represent a compiled result from multiple media and multiple dilutions. Sensitivity of the results depends largely upon the dilutions used and the size of the sample. For example, a dilution of 1:100 means that 1 colony on a plate represents a sample count of 100. For a sample of 0.025 grams, this would represent 4,000 cfu/gram. For a sample of 0.002 grams, this would represent 50,000 cfu/gram.

When detected, the minimum detection and reporting limit is a colony count of 1 at the lowest dilution plated.

Interpretation is left to the company and/or persons who conducted the field work.

‡ A "Version" greater than 1 indicates amended data.

§ Total CFU/unit has been rounded to two significant figures to reflect analytical precision.

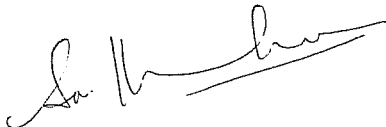
EMLab P&K

Report for:

Mr. Paul Taylor
Exponent Health Group: CA
500 12th Street Suite 220
Oakland, CA 94607

Regarding: Project: 0905565.000; WP Duet
EML ID: 581364

Approved by:



Lab Manager
Dr. Kamashwaran Ramanathan

Dates of Analysis:
Direct microscopic exam (Qualitative): 09-17-2009

Project SOPs: Direct microscopic exam (Qualitative) (I100005)

This coversheet is included with your report in order to comply with AIHA and ISO accreditation requirements.

For clarity, we report the number of significant digits as calculated; but, due to the nature of this type of biological data, the number of significant digits that is used for interpretation should generally be one or two. All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank corrections of results is not a standard practice. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Document Number: 200091 - Revision Number: 5

EMLab P&K1150 Bayhill Drive, Suite 100, San Bruno, CA 94066
(866) 888-6653 Fax (650) 829-5852 www.emlab.comClient: Exponent Health Group: CA
C/O: Mr. Paul Taylor
Re: 0905565.000; WP DuetDate of Sampling: 09-15-2009
Date of Receipt: 09-16-2009
Date of Report: 09-17-2009**DIRECT MICROSCOPIC EXAMINATION REPORT**

(Wet Mount)

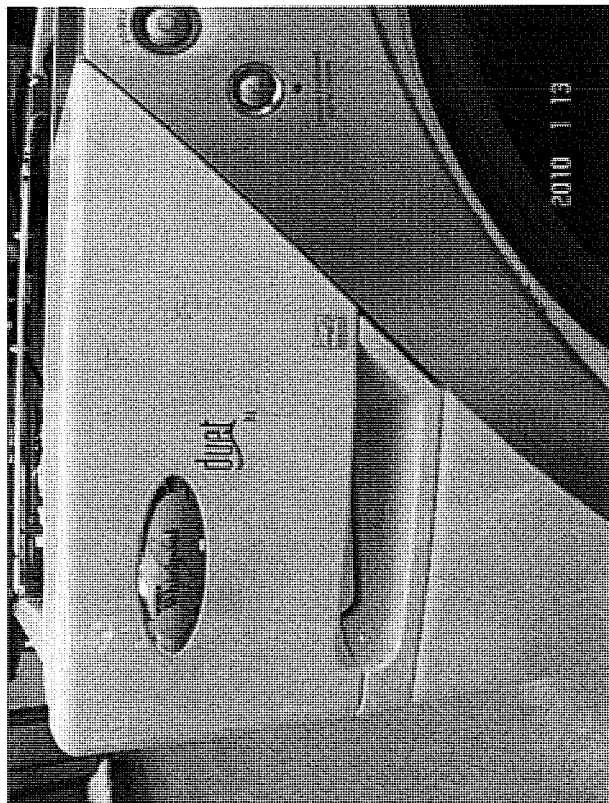
Background Debris and/or Description	Miscellaneous Spores Present*	MOLD GROWTH: Molds seen with underlying mycelial and/or sporulating structures†	Other Comments††	General Impression
Lab ID-Version‡: 2578474-1: Tape sample SCH-TL1: Inside carpet				
Moderate	Very few	None	None	Normal trapping
Lab ID-Version: 2578475-1: Tape sample SCH-TL2: Outside gasket				
Moderate	Very few	None	None	Normal trapping
Lab ID-Version: 2578476-1: Tape sample SCH-TL3: SS drum				
Light	Very few	None	None	Normal trapping
Lab ID-Version: 2578477-1: Tape sample SCH-TL4: Soap dep. cav				
Light	Very few	1+ <i>Cladosporium</i> species (spores, hyphae, conidiophores)	None	Mold growth
Lab ID-Version: 2578478-1: Tape sample SCH-TL5: End of drain pipe				
Moderate	Very few	None	None	Normal trapping
Lab ID-Version: 2578479-1: Tape sample SCH-TL6: Drain elbow				
Moderate	Very few	None	None	Normal trapping
Lab ID-Version: 2578480-1: Tape sample SCH-TL7: Top of door				
Moderate	Few	None	None	Normal trapping

‡ A "Version" greater than 1 indicates amended data.

Exhibit E

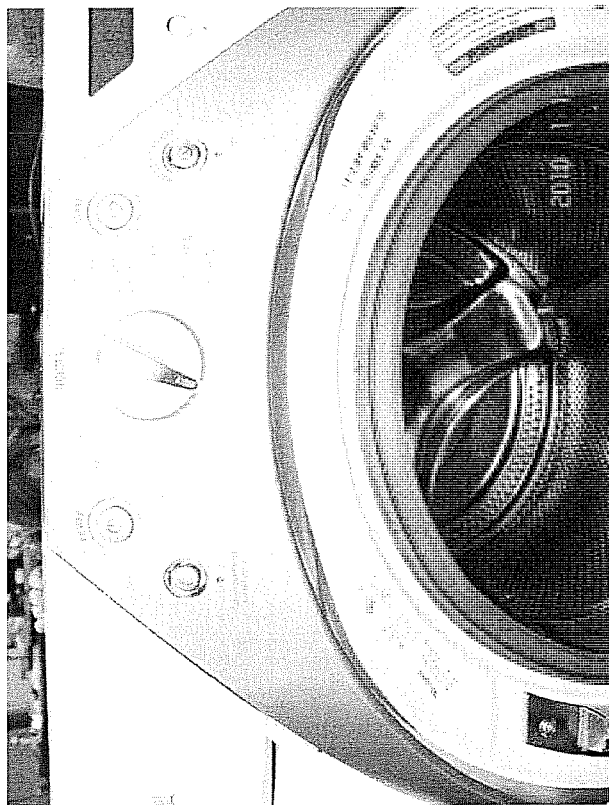
Test of Access Washer with Holes
Drilled in Rear and Top of Tub

Test Washer



Washer Model

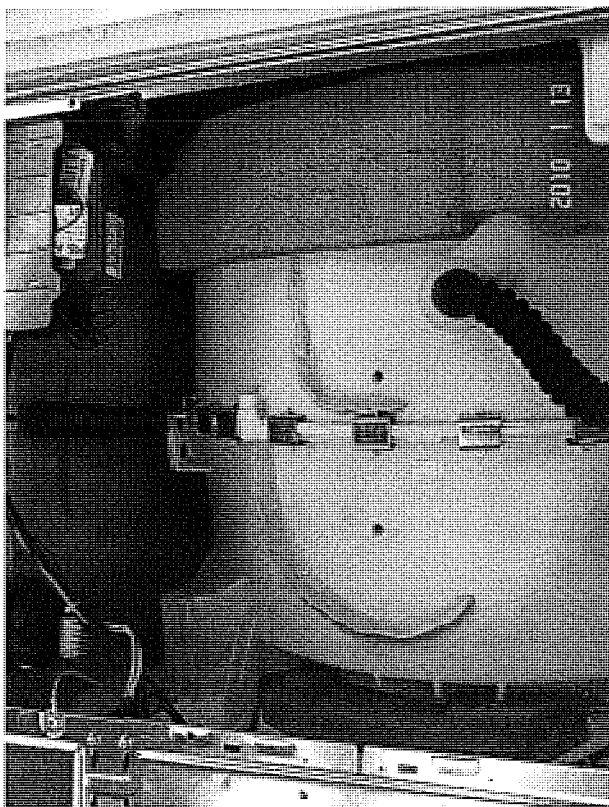
DSC00393.jpg



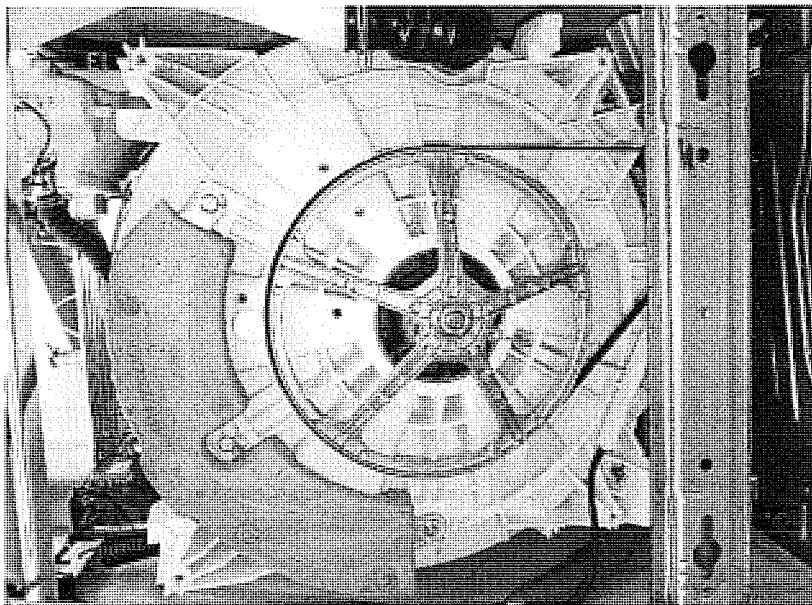
Model # WFW9400SZ02, S/N: CSW4904733

DSC00394.jpg

Holes Drilled in Top and Back of Tub

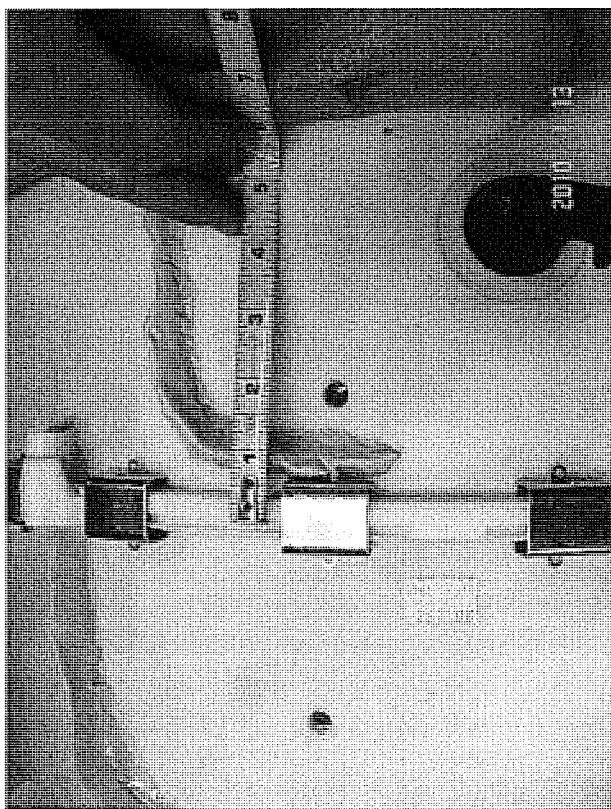


Top of Tub
DSC00402.jpg

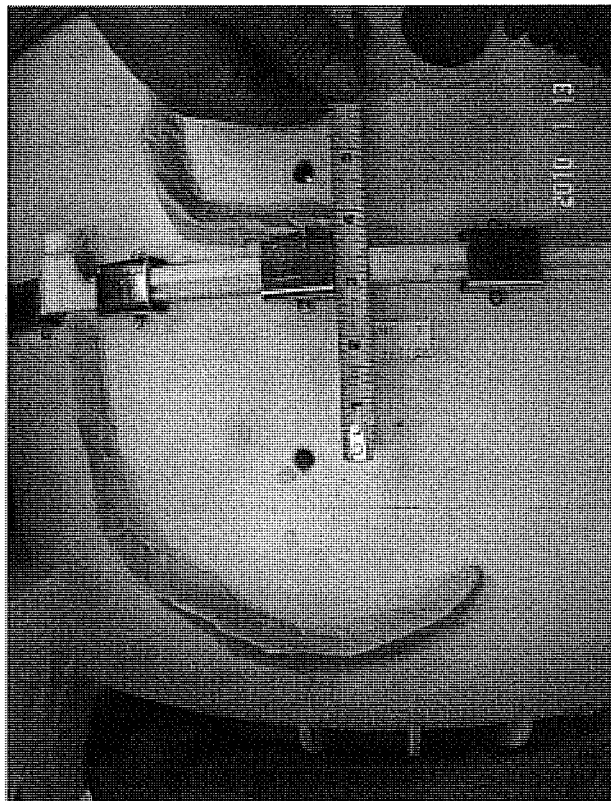


Back of Tub
DSC00401.jpg

Holes Drilled in Top of Tub

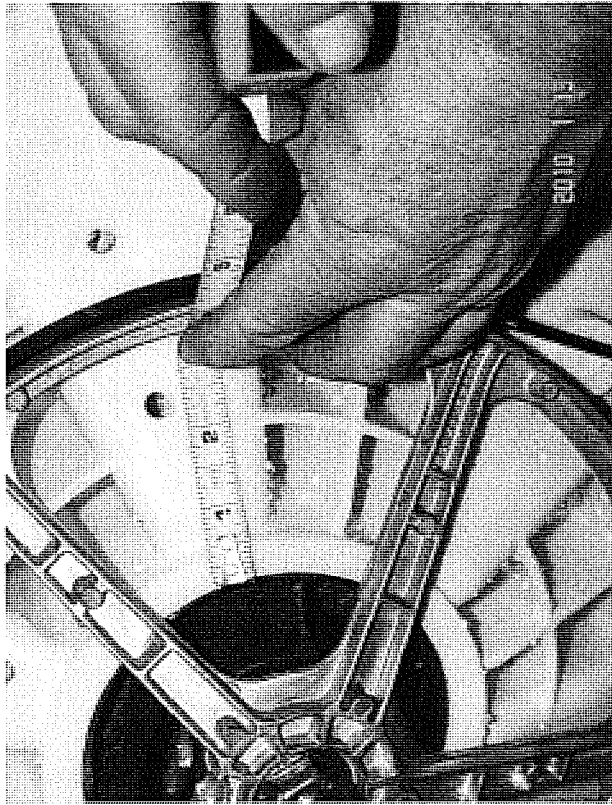


Hole 1 in Top
DSC00372.jpg

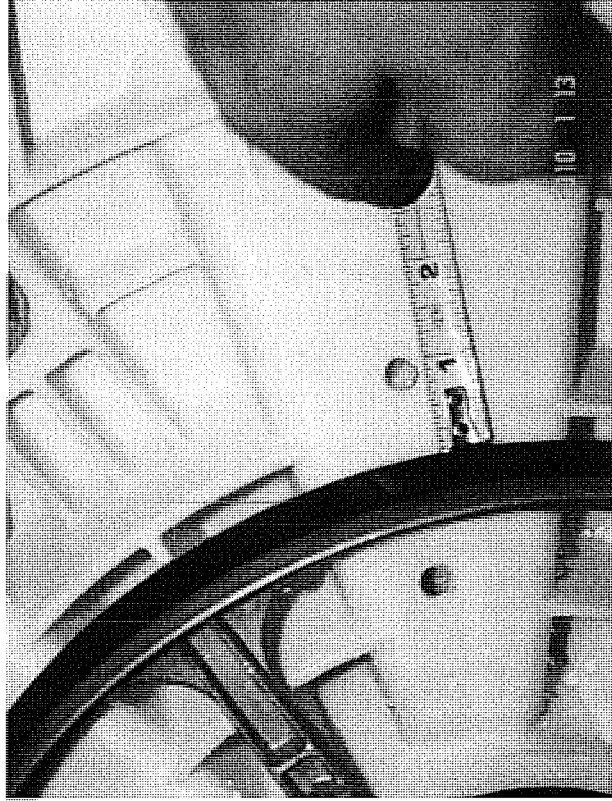


Hole 2 in Top
DSC00373.jpg

Holes Drilled in Back of Tub

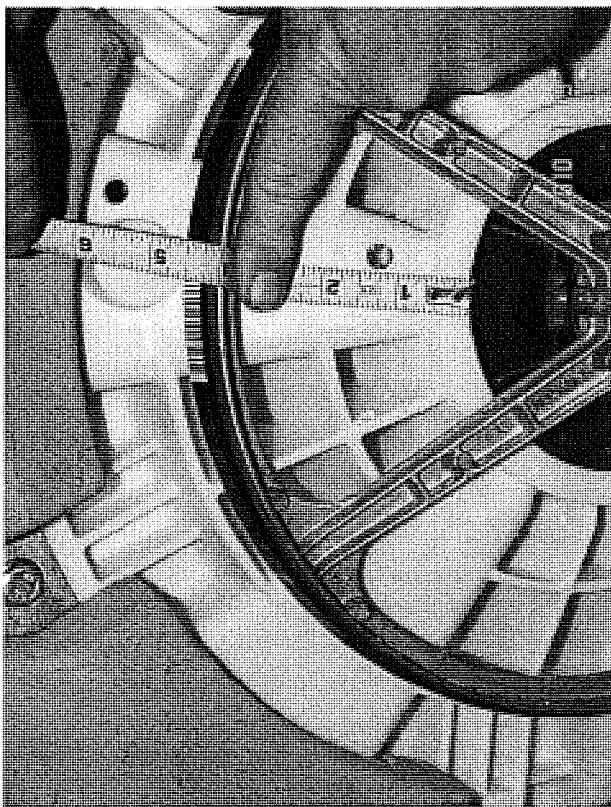


Hole 1 in Back
DSC00379.jpg



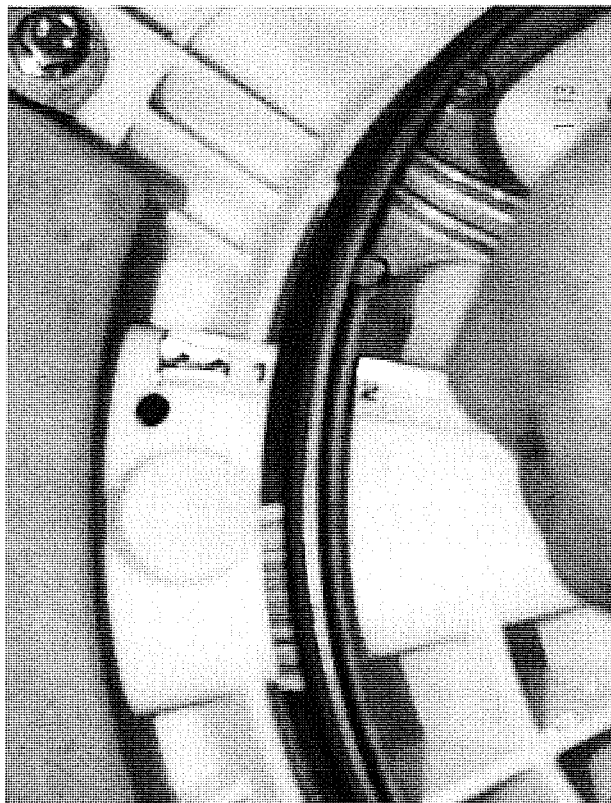
Hole 2 in Back
DSC00380.jpg

Holes Drilled in Back of Tub, cont.



Hole 3 in Back

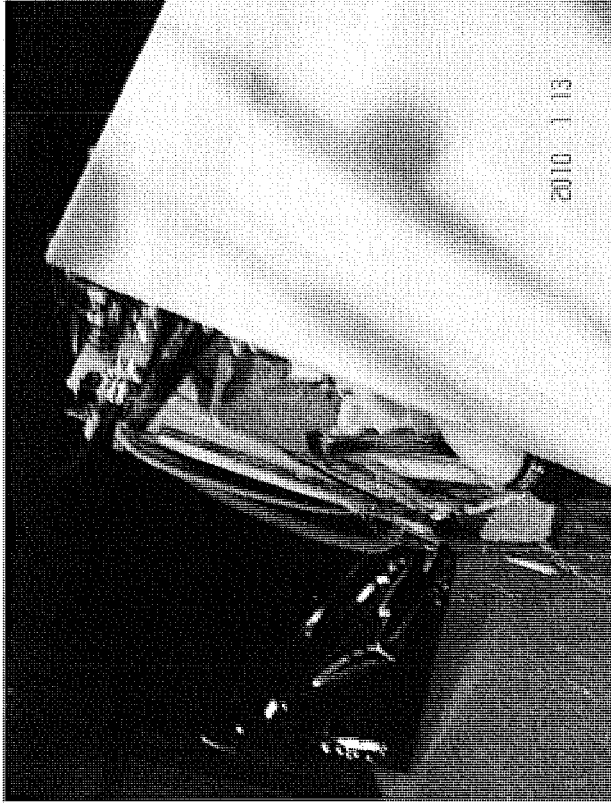
DSC00378.jpg



Hole 4 in Back

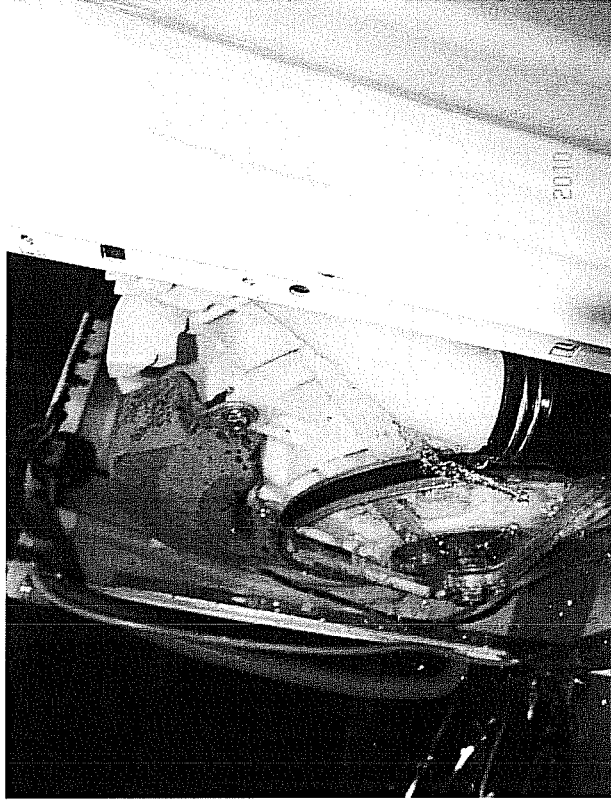
DSC00381.jpg

Testing Result – Clean Washer Cycle



Flow Out Back, Clean Washer Cycle

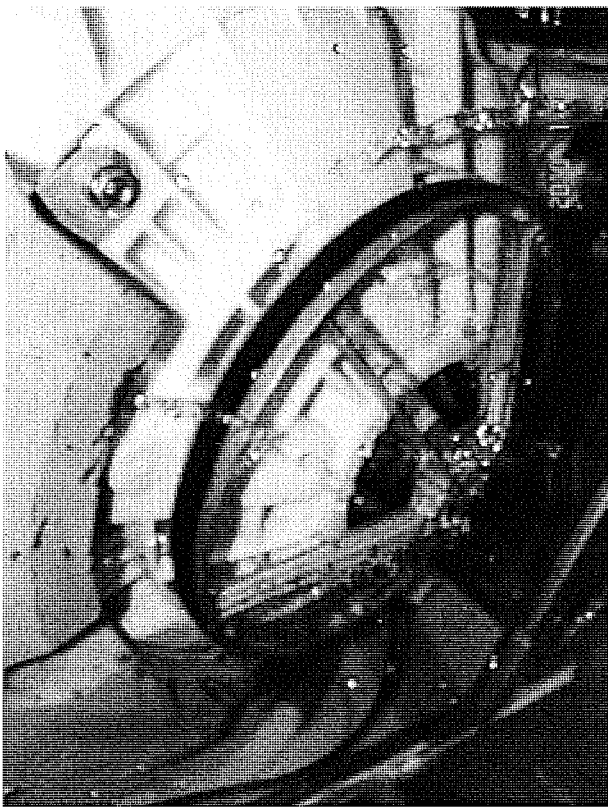
DSC00383.jpg



Flow Out Back, Clean Washer Cycle

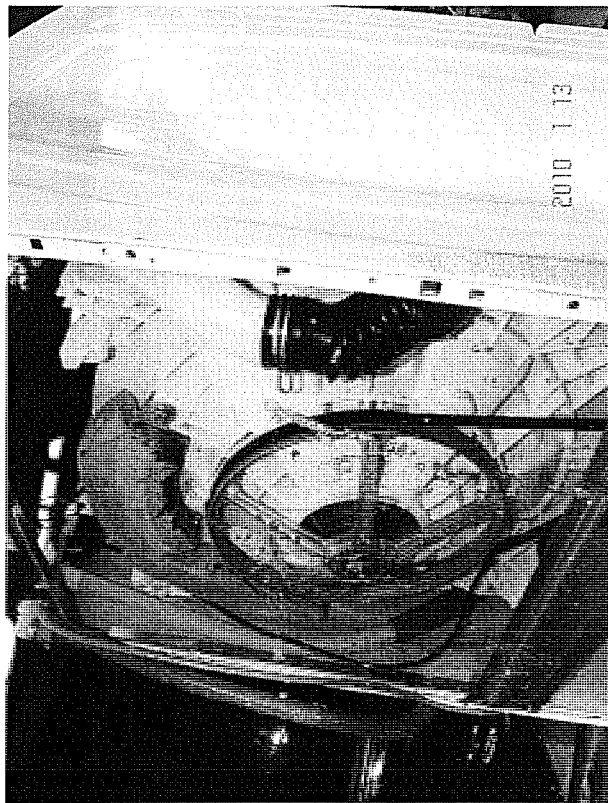
DSC00384.jpg

Testing Result – Clean Washer Cycle, cont.



Flow Out Back, Clean Washer Cycle

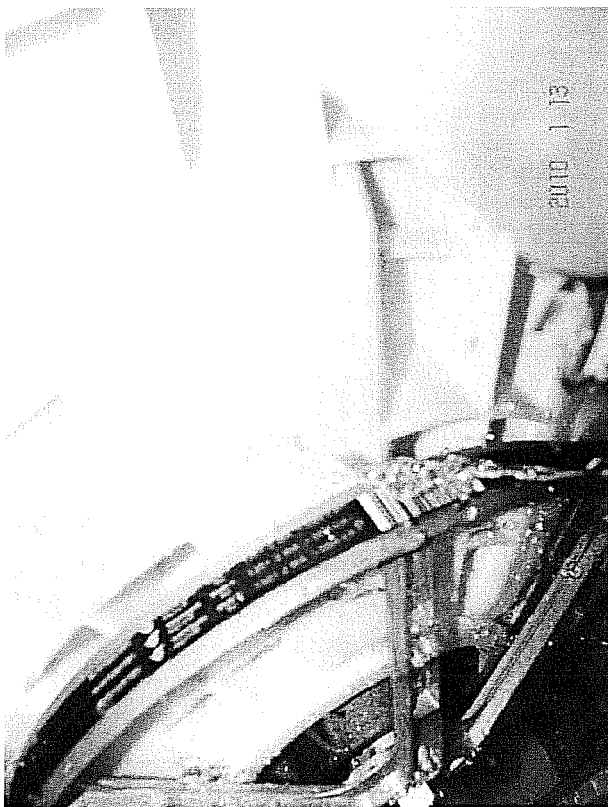
DSC00385.jpg



Flow Out Back, Clean Washer Cycle

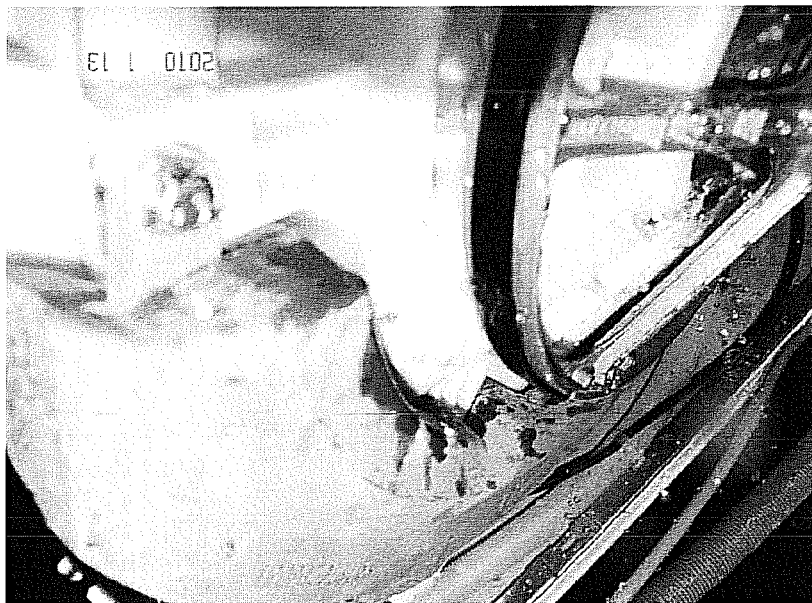
DSC00390.jpg

Testing Result – Clean Washer Cycle, cont.



Flow Out Back, Clean Washer Cycle

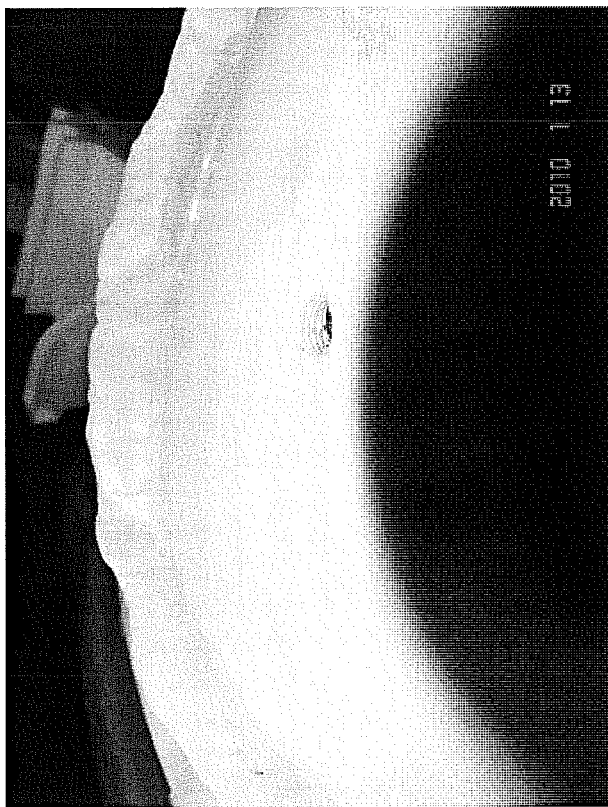
DSC00391.jpg



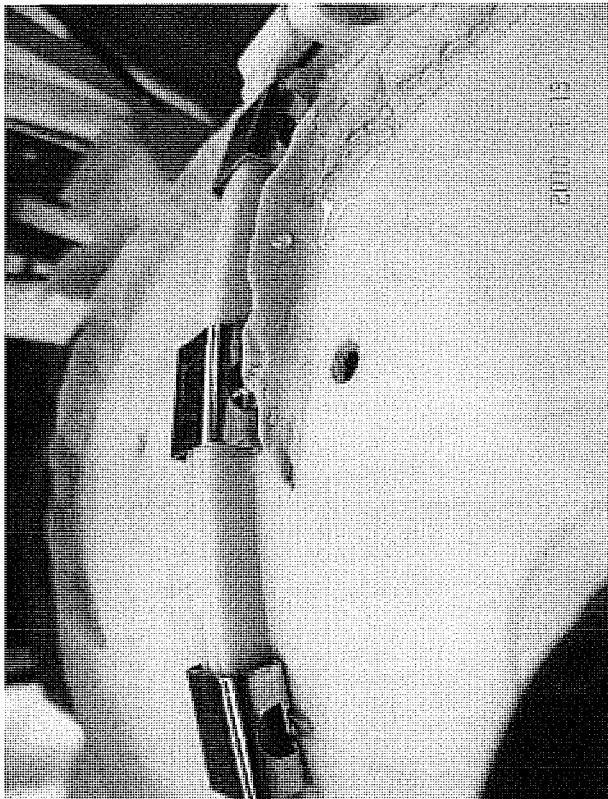
Flow Out Back, Clean Washer Cycle

DSC00392.jpg

Testing Result – Clean Washer Cycle, cont.

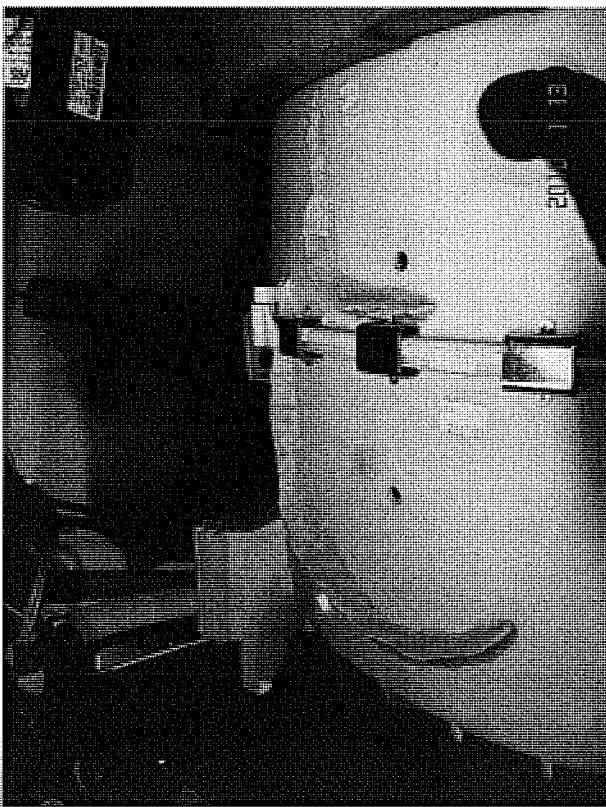


Holes on Top, Clean Washer Cycle
DSC00388.jpg



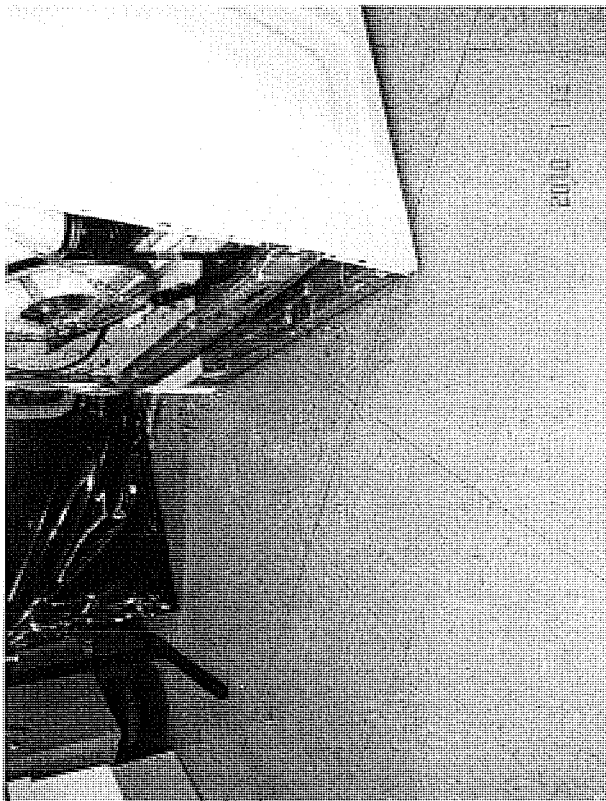
Holes on Top, Clean Washer Cycle
DSC00387.jpg

Testing Result – Clean Washer Cycle, cont.



Holes on Top, Clean Washer Cycle

DSC00386.jpg



Holes on Back, Clean Washer Cycle

DSC00389.jpg